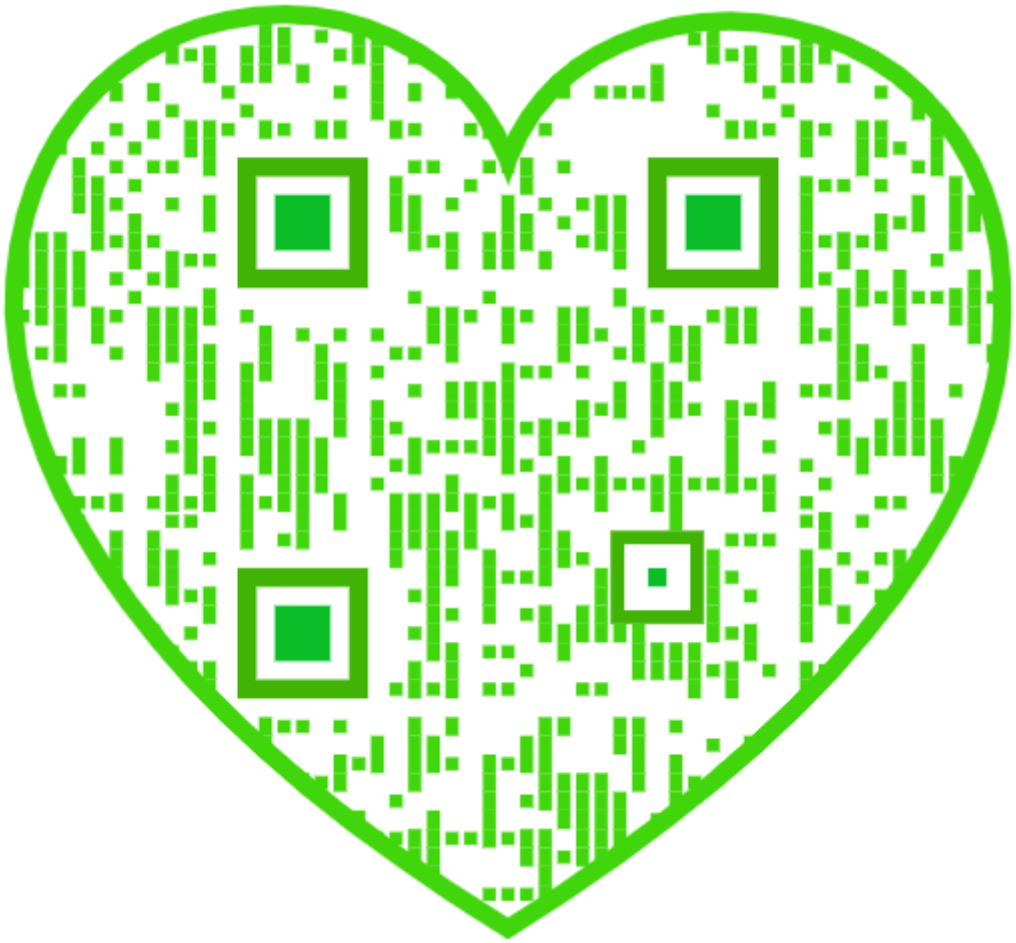
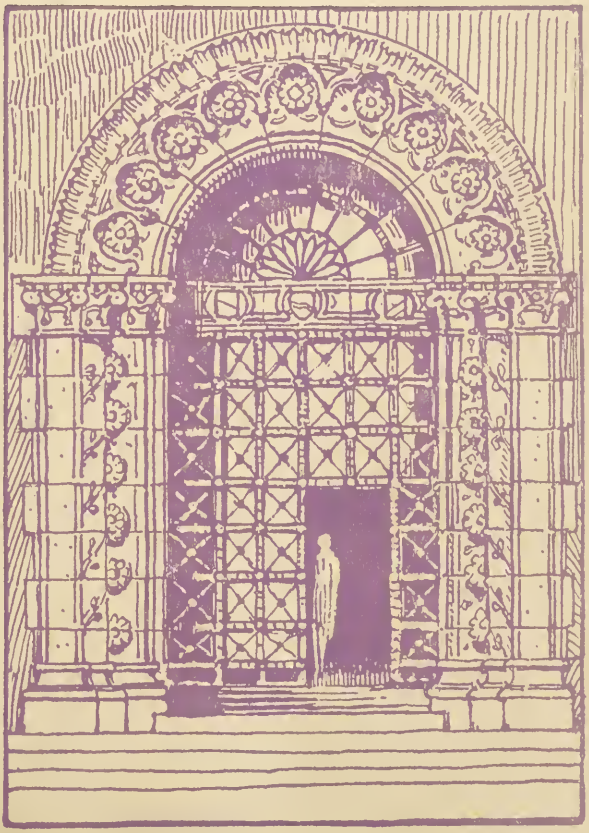


THE ARCHITECT AND ENGINEER



APRIL
1931

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Corrective of the last paragraph on Page 21 of the March, 1931, issue of THE ARCHITECT AND ENGINEER.

The State Association of California Architects is local to the State of California. It is affiliated with, and working in harmonious cooperation with the American Institute of Architects. It does not encroach upon the field of endeavor of the American Institute. Any statement seeming to indicate that the State Association of California Architects had, or has, any intention of forming a national organization, either by affiliation with other state organizations, or otherwise, is premature. In the Association of California Architects, representation of the American Institute on the Board of Control is provided for in the constitution of the California Association. This is with the approval of the American Institute.

The American Institute of Architects has fully understood and has been in accord with the movement of the architects of California in causing to be formed the State Association of California Architects. Indeed, it has met the approval of the American Institute so wholeheartedly that the Institute has under serious consideration its active encouragement and assistance in the organization of other state associations similar to the California organization. Therefore, the State Association does not draw from the American Institute. An architect of California automatically becomes a member of the State Association by reason of his being licensed under the general laws of California. The State Association encourages active affiliation of California architects with the American Institute of Architects.

An attack on the State Association of California architects is tantamount to an attack on every architect in the state. We regret publication of the article. We have not been in full accord with the Association, but we have every hope that a complete understanding will soon be reached.

* * *

To educate the public properly to recognize the architect as an indispensible part of a building project, is a task that the American Institute of Architects and other architectural organizations have undertaken with some degree of success. But to bring their message home with lasting results the architects organizations must have the support not only of the architectural press but of every trade journal that is in any way identified with the building industry, as well as the daily newspapers which seem disinclined to give architects the credit and the recognition they are entitled to. Spending money for monthly Bulletins and leaflets is all right for recording Chapter and Society activities, but this sort of literature will not sell the layman. Recognized publications of general circulation must be used for educational purposes.

William Harmon Beers has this to say about architects and the press:

"It can be stated with confidence that architecture today commands a greater share of public attention and public appreciation than ever before. Both the press and the public are sympathetic to a marked degree. It is the responsibility of the architect to maintain and to enrich the architectural mind. This the architect can do because, patently, he makes news.

"Failure to contribute to public enlightenment as to the aims of architecture can, it seems, result only from indifference.

* * *

"In architecture, as in salvation, many are called, but few are chosen. This being so, it is the duty of the few to lead the many. Genius, or what passes current for genius, should not shrink from the forum, for no amount of genius will replace facts where facts, and not genius, are necessary. The objectors to public information are those who would alienate the architect from his rightful place in the social order. The sponsors of public information are those who would create a working mental alliance between the architect and the masses. Sound ethics are not based on narrow inhibitions. Their horizon compasses a world in action, a world that is becoming more intelligent, and hence a world that needs to be informed.

* * *

"Clearly, the public must understand the architect; it must know his mission as it knows the mission of the lawyer, or the doctor, or the banker. Self-interpretation is the outstanding need of the architectural profession. The process of public information set in motion by the Institute must not be permitted to lag. Its development is a duty no less to society than to the architect. The thousands of columns of space now annually devoted to architecture by the newspapers of the nation indubitably evidence this. Conservatism is commendable, but it must not be archaic.

"One architect of great distinction went so far as to declare recently in a private discussion that "architects are manufacturers." In any event, their destiny is leadership, and leadership does not connote seclusion. The procession is moving, and with public information as his chariot, the architect should hasten to "get aboard."

"It would be unfair to infer that in general architects are laggards in public service. On the contrary, considerable numbers of them are functioning effectively in those quasi public units of Chapter organization styled Committees on Public Information. It is not too much to say that they are the statesmen of architecture, and by statesmanship we mean that Euripidean quality by which we "see life steadily and see it whole." Among the forces of American life, architecture, as a result of their efforts, is not the least dynamic and not the least serviceable to intelligence, the springs of which are found in information."

* * *

The Stockton post office appointment won by a very reputable firm of San Francisco architects, met with some opposition from the natives of the Slough City who seemed to feel there was sufficient talent at home without going abroad for it. Uncle Sam conceded a compromise by naming a local architect as consultant. The government was somewhat hesitant about making appointments oustide the Treasury Department, and it is likely to be still more indifferent in the future, if objections to appointments are made. Uncle Sam does not relish these local controversies.

The naming of architects to design California State buildings has pleased those fortunate enough to draw commissions and the appointments will come mighty handy to a number whose drafting boards have been somewhat barren of work for a year or more. Of course there were not enough buildings to give everybody a commission, but maybe those who have been overlooked will be remembered next time. Let us hope so anyway.

* * *

Our mutual friend, F. W. Fitzpatrick of Chicago, usually very optimistic in his prognostications, seems to have joined the pessimists, if his recent views on business recovery are to be taken seriously. He thinks we have a long way to go before the building industry recovers from its slump. And for present conditions we are all more or less to blame. According to Mr. Fitzpatrick:

"The bankers must have known better, but they aided and abetted that building-boom. The bond-houses carefully nurtured it. The architects licked their chops over it, egged it on, and did the work with lavish hand. A building couldn't cost too much for them, plus all of which they did their work none too well. Builders waxed fat and impudent during that boom and the building trades added to the festivities by setting foolish rates for their labor and doing as little work per day as they could bluff through."

Wastefulness of those in the construction field is illustrated by Mr. Fitzpatrick by the following incident:

"One day the owner of a building under construction and I were standing by looking up at the steel workers in action. The rat-tap of the riveter lulled for a moment. Oh hush!, said he. And why?, says I. He replied that he wanted a fair start at counting the tap-tap when it began again. If he could only count them it would give him some idea of the cost of the building, each tap representing a dollar!

"Oh, it was a great game.

"Of course there was some legitimate building, but the bulk of it was speculative, 'on a shoestring'. And now we are paying the price."

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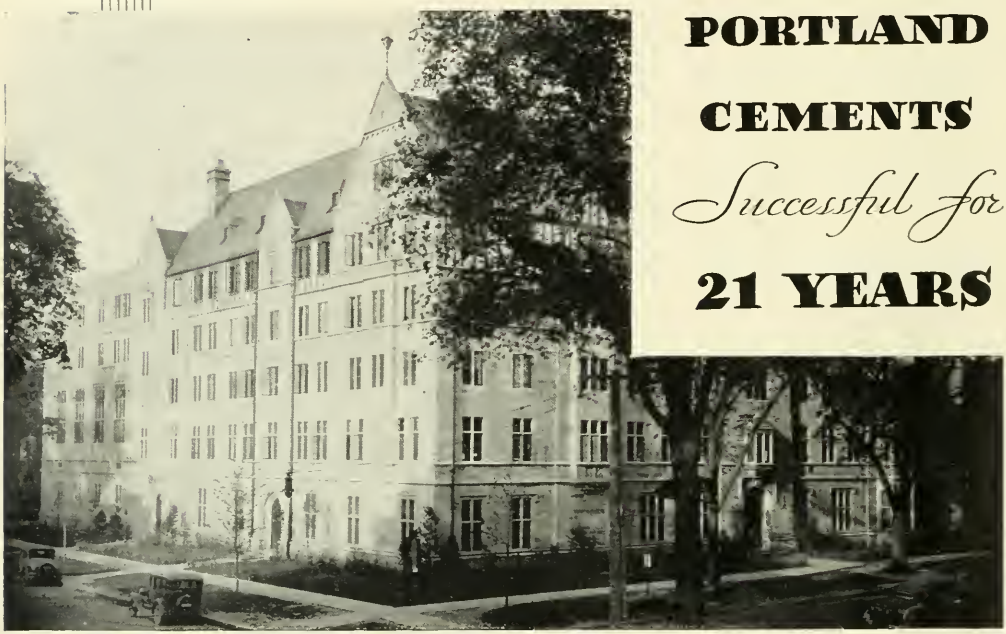

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THE ARCHITECT AND ENGINEER

APRIL
1931

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Photo by Sponagel

ENTRANCE, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

THE
ARCHITECT
AND ENGINEER

APRIL 1931
VOLUME 105
NUMBER ONE

BERKELEY WOMEN'S CITY CLUB

by JULIAN C. MESIC

THE building of the Berkeley Women's City Club is an achievement—first because it was promoted and financed by women and second, because its architect is a woman. It is a delightful city club building for the women of a university town. The pleasing ensemble is characterized by a restrained use of rich ornament, not fussy or effeminate, but strong and decorative,—in a sense, emblematic.

The casual observer, conversant with the times, understands the momentuous significance of a club to its members, especially women. Men have long had their clubs — for purely social purposes, used and enjoyed them. Women only recently have come to this stage, justifying their buildings by their use for public service or self education, a fact we often find reflected in lecture and class and educational elements.

ARCHITECT'S ORIGINAL SKETCH, WOMEN'S CITY CLUB, BERKELEY, CALIFORNIA

Club women must still exert uncommon effort, often with personal sacrifice, in order to house their activities in fitting manner. Architecturally the comparative newness of such projects, and the consequent emotional values, must be reckoned with.

Club buildings are fascinating problems, especially in California. Club life is no more systematized than is home life. This incurs special responsibilities for the architect for each element must be thoroughly considered and its use and value weighed in each individual project.

The Berkeley Women's City Club, is symbolic of the changed status of women, and their broadening outlook. That they have wrought this change by their own efforts, indicates a deep living force with which the world will reckon further. It is logical that the building should radiate vigor gracefully.

The very assemblage of the great number of large friendly rooms indicates the extensive and many phases of the Club's activities. The detailed service ac-

K. E. Parker Company, Builders

DURANT AVENUE ELEVATION, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

commodations adjacent to each reception and social room, dining room and lounge are very essential; as are the ample locker and rest rooms for each class of help.

As many members as possible live within the building. The plans provide for the addition of two wings on the four bedroom floors, as soon as possible.

Adjoining the main entrance is screened the business of operation. Opportunity is given to observe all activities in foyer, on stairs, and at elevators, welcome guests and serve members. A men's lounge, small but attractive, is conveniently located adjoining the offices. Quiet and ample extra offices for bookkeepers and assistants are located in the rear mezzanine.

Space provided for a shop adjoining the main entrance in the foyer has been already taken for social activities. The building being located on Durant Street, still residential in character, in no way calls for provision for street shops. This of course adds to its residential charm.

Besides passages and yards giving circulation around the entire building, there are two interior courts which lend ever changing light effects to the main rooms. The gay flowers and foliage in these courts, the sun streaming thru cloister-like arcades, fascinate one even upon entrance.

The purpose of the Club is largely social, while offering recreational and cultural advantages. The colorful pool with its turquoise tile lining, concrete walls, ceiling and arches, is very popular, while the auditorium serves a round of musicals, lectures and other activities requiring large floor space.

All public rooms are very much used, often for several affairs on the same day. Receptions, teas, luncheons, dinners, card parties, and affairs of a normal home, follow each other in quick succession, demanding full use of the ample service and storage rooms available.

One instinctively feels that care and thoroughness were not spared in designing the building. Corroboration is found in the architect's maturing of designs for and on dishes, in the refined adjustment of lovely colors in the servette of the members' lounge, in the critical judgment of furnishings and hangings throughout.

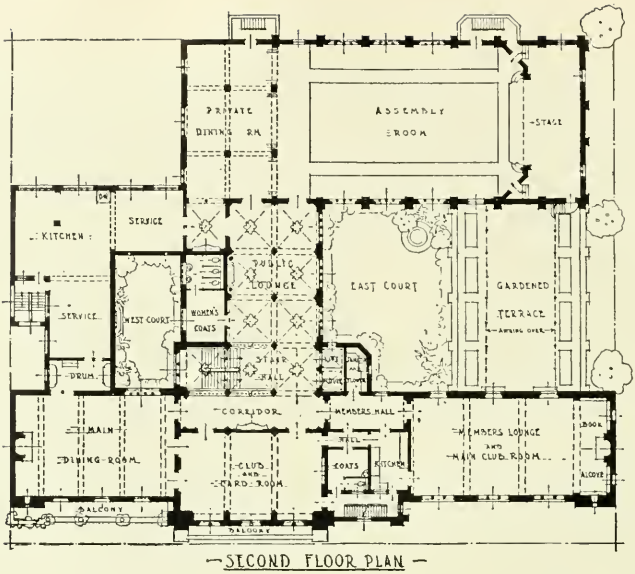
DETAIL, WOMEN'S CITY CLUB
Julia Morgan, Architect

Knowing an artist's reaction to his own work, the writer felt, even before seeing the building, that somehow it had *scored*, for after many weeks of concentration at the job, the architect suddenly appeared re-

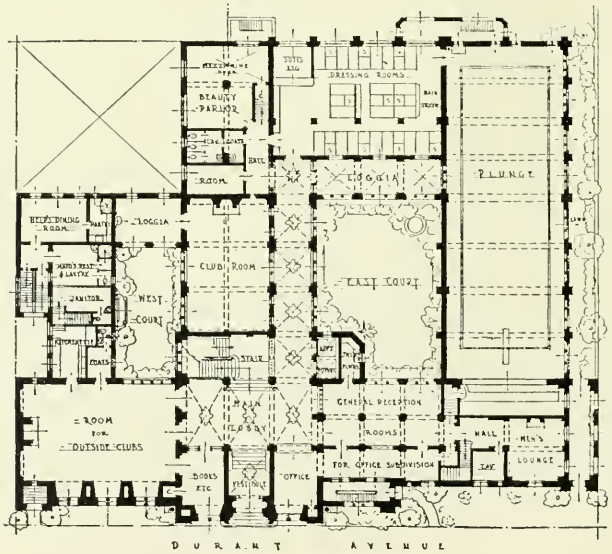
MEMBERS' SUN DECK, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

Photo by Sponagel

MEMBERS' SUN DECK OVER PLUNGE, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT



— SECOND FLOOR PLAN —



— FIRST FLOOR PLAN —

PLANS, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

Photo by Morton

MEMBERS' LOUNGE, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

lieved and radiant — satisfied that the craftsman had caught the spirit of the design due in a large measure to patient cooperation, display of models and the loan of helpful books to the workmen.

Why mention these things?

Because they are a continuation and show the subtle influence, one might say, of the fine work Miss Morgan has done at La Cuesta Encantada, San Simeon, California. At your recognition, Miss Morgan reminds you that, "Few *can* have the opportunity of working with real things such as are part of San Simeon, belonging to the best art of the ages."

It is a privilege to live and work with works of fine art and old craftsmanship. Years of continuous and exacting effort have been required to create new work with new methods and materials in harmony with these of earlier periods, and must make their impress on all work handled.

The retention of the fine spirit of the past, developed thru generation after generation of struggle, can mellow the hard forms of our mechanical age. Experience would make us all facile, but as she says, few have the opportunity. Hence it behooves us to watch the results closely.

To illustrate, one feels a unity, a lithe sincerity, in this women's club building. The whole seems knit together, to have form and decoration without extraneous appendages. Concrete is used as concrete. Furring plays little part, the structural forms furnishing the necessary beauty. Beams and vaulting are structural necessities. Care in giving the forms proper texture and concrete the varied mixtures necessary did the rest.

DINING ROOM, WOMEN'S CITY CLUB, BERKELEY
Julia Morgan, Architect

The architect explains that it is really quite simple to set the columns in clay and let the stone cutter tool them by his natural stroke with a stone cutting tool. (Any type of tool is permissable which suits the modeler.) Plaster molds are then made and incorporated in the regu-

lar reinforced concrete forms.

Much of the modeled work and moldings are cast in place. Little resort has been had to what is known as "pre-cast" work. Thruout the building, the concrete structure is, or was planned to be, the finished expression. In the large public rooms the structural girders and beams are unplastered. Stained and stenciled they are decorative, and a legitimate and interesting expression of structure. In the bedrooms the concrete is plastered, but no attempt is made to conceal columns or beams. The auditorium ceiling is wood lined for acoustical reasons.

Where plastering has been necessary it has been done, both on interior and exterior, with considerable freedom. Somehow the plasterer has been made to forget that such things as corner beads ever existed and the lines descend in a sketchy and delightful manner. They are just one example of the many ways in which the workman has been lead to take a creative interest in his work,—a most difficult thing since we trained it out of him by false standards of perfection.

Miss Morgan pays tribute to the builders for excellent cooperation and interest in the execution of the work. Enthusiasm ran so high that, on completion, a dinner was given to those who had worked upon the building as an expression of appreciation. Craftsmen, builders and architects joined for an evening to see together the finish of that which they had aided in creating. The spirit of the worker played no small part in the result.

Photo by Morton

PLUNGE, WOMEN'S CITY CLUB, BERKELEY
Julia Morgan, Architect

Club buildings will change in form because club purposes change. Present day observers note new trends in clubs. Foresight will ever be in demand.

In the Berkeley Women's City Club, members are wholeheartedly enthusiastic about their building, and well they may be. Over and above the individual success is the contribution to construction, art and architecture.

Cost and Construction Data

:—:

WOMEN'S CITY CLUB, BERKELEY
Julia Morgan, Architect.

Completion date: 1930.
First and second floors:
Public rooms and services.

Bedrooms: 3rd, 4th, 5th and 6th floors.
Two, two-room suites each floor.
Balance, single rooms with baths.

Basement (except under pool): Service, boiler room with pool equipment.

General construction: Reinforced concrete.
Floor system: Beam and slab.

Roof: Mission tile.
Tea Terrace: Tile on concrete slab.

Floors: In general, tiled.
Auditorium, oak.
Bedrooms and bedroom corridors, carpeted

Radiators: Covered in public rooms.

Elevators: Two automatic electric.
One automatic hydraulic.

Windows: Steel frames and casements.

Interior wall finish:
Plaster from the float, stained.

Exterior wall finish:
Crushed travertine and cement.

Lot frontage: 156 feet.

Cost per cubic foot: 37 cents.

WEST COURT. WOMEN'S CITY CLUB. BERKELEY
JULIA MORGAN. ARCHITECT

EAST COURT, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

LOGGIA OFF EAST COURT, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

GALLERIE OFF EAST COURT, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

ENTRANCE HALL AND STAIRCASE, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

DETAIL MEMBERS' LOUNGE, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

CORNER MEMBERS' LOUNGE, WOMEN'S CITY CLUB, BERKELEY
JULIA MORGAN, ARCHITECT

ENTRANCE, TEACHERS STATE COLLEGE, SAN FRANCISCO
GEORGE B. McDOUGALL, STATE ARCHITECT

ARCHITECTURAL EXHIBIT AT LOS ANGELES

by H. ROY KELLEY, A. I. A.

THE architectural exhibition held in March in the Architects' Building, Los Angeles, was well worth more than a lingering visit. It was of great interest not only to the layman but to the architect as well. The exhibition was under the auspices of the Los Angeles Architectural Club, the Architects' League of Hollywood, the Pasadena Architectural Club, the Certified Architects of Beverly Hills, the Pasadena Architectural Club, and the San Diego and Santa Barbara Chapters of the American Institute of Architects. No small credit should be given the promoter, Miss M. L. Schmidt of the Architects' Building Material Exhibit, whose untiring efforts in the cause of good architecture are well known to the profession.

The exhibit presented a distinctive record of recent architectural achievement in Southern California. It was replete with a generous showing of beautiful examples of architecture from many of the most distinguished architects in Southern California. The exhibits were about equally divided between photographs of completed structures and renderings and sketches. Some of these renderings were in color, giving added interest to the exhibit.

An outstanding feature was the display of beautiful renderings in oil by Elmer Grey. There were also some very attractive water color renderings by Robert Lockwood and many striking pencil sketches and renderings in wash. Also, among the exhibits, were a number of beautiful examples of the photographic art of William Clarke, George Haight, Clyde Stoughton and others.

Residence work, as is usual in such exhibits, predominated, and a number of the finest residences recently executed in Southern California were pictured. These gave an accurate index of the trend of residence design in Southern California. While there were many examples of English, Norman and other related types, the bulk of the work showed a feeling most definitely Californian. This is an indication that is most interesting as it reflects the influence of the Californian environment, history and background upon not only our architects, but upon those for whom they design. While many people from the East, who are unaccustomed to the romanticism of the Latin type of architecture, demand English, Colonial or Norman houses, yet it is interesting to note that those who have made an extended sojourn in our country, and others who take up their permanent residence here, are gradually becoming aware of the possibilities of the more truly California style and its adaptability to the local setting.

One thing that has helped to bring this about has been the growing popularity of the so-called Early California or Monterey house. This has served a long-felt need for those with an Anglo-Saxon background who could not quite adapt themselves or their home furnishings to the more romantic and theatrical types of Spanish formerly in vogue. This type of house has formed a happy medium. It fits in with the California landscape, it fullfills the California traditions, and it enables people to obtain a background in keeping with their life-time environment in home life.

RESIDENCE OF MR. AND MRS. WALLACE MOIR, BEVERLY HILLS
H. ROY KELLEY, ARCHITECT

Photo by Padilla

HOUSE IN SOUTHERN CALIFORNIA

ARTHUR KELLY, ARCHITECT; JOE ESTEP, ASSOCIATE

ST. PETER AND ST. PAUL'S CHURCH, WILMINGTON, CALIFORNIA
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

SANCTUARY, ST. PETER AND ST. PAUL'S CHURCH, WILMINGTON
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

PROPOSED THEATER FOR HOLLYWOOD, CALIFORNIA
L. G. Scherer, Architect

STORE BUILDING, HOLLYWOOD, CALIFORNIA
Heth Wharton, Architect

LYNWOOD JUNIOR HIGH SCHOOL, LYNWOOD, CALIFORNIA
Marsh, Smith and Powell, Architects

Photo by Miles Berne

MILES MEMORIAL, SANTA MONICA, CALIFORNIA
John Byers, Architect

HOUSE OF F. W. GRIFFITH, LOS ANGELES
Roland E. Coate, Architect

Photo by Geo. D. Haight

RESIDENCE OF WILLIAM C. McDUFFIE, PASADENA, CALIFORNIA
Reginald D. Johnson, Architect

Photo by Miles Berne

RESIDENCE FOR HEBER FOWLER, LOS ANGELES, CALIFORNIA
Witmer and Watson, Architects

Among the exhibits were some most interesting examples of commercial and public work. Strangely enough, while the predominant note in the residence work is environmental and historic, the character reflected in the commercial and other work is anything but historic. It is distinctly modern. It is based upon precedent to a very small degree, if at all. Some of it has arrived and looks right; a great deal of it is experimental and is wrong. To dare and do this, to use the words of our President, is a noble experiment; but to dare and fail is rather sad. No one but the real designer with a creative mind should attempt modern design. There is no mistaking that it is going to remain with us and many interesting things will be done, but there are few capable of setting the pace.

PROFESSIONAL RELATIONS BETWEEN ARCHITECT AND SCHOOL BOARD

by JOHN J. DONOVAN, A. I. A.

I DEEM it a real pleasure and a privilege indeed to address your Convention and believe your President has especially favored me when he requested that I discuss with you some of the problems pertaining to the professional relations between the Architect and the School Board. I know full well that in most or nearly all instances, and especially at this meeting, you are the personification of the Board by reason of your position, for you are vitally interested in the policies of your Board and often formulate and direct them, either actually or indirectly, and whatever may be the professional relations between the Architect and the Board of Education, those very same relations exist between you and the Architect. Consequently, I trust what I say may reinforce that with which you are already familiar and perhaps substantiate that which my fellow architects and myself believe to be truly applicable to the best interest of the Public, Boards of Education, yourselves and ourselves.

Before entering immediately into my subject, may I touch upon a few epochal events which are landmarks of American education, and upon a few of the efforts of earlier American architects in school work, just as a reminder of the bridge which spans the chasm of not many years, but whose depths contain the priceless contributions of real men and women who have given their best that the torch of education might burn more brightly, more steadfastly and unfailingly in its guidance.

It was but yesterday that things began to happen in American Education and applied science which influences all education. A little less than 100 years ago, 1837, to be exact, the first City Superintendent of Schools took office in Buffalo and Boston in 1851; New York and San Francisco in 1852; Chicago and St. Louis in 1853, and in Philadelphia not until 1883.*

In 1870 the average monthly wages of teachers was $28.54. The schools of New York State were not free to all children until 1867. Boston opened its first public high school in 1821 and Hartford not until 1843. The first free public school in California was established in 1849. Drawing was first introduced in Boston in 1870 and then only after earnest solicitation by the manufacturers who recognized that the American workman was inferior to the European who had such training in his mother country. Manual training was introduced into the United States thru an exhibit made by a Russian Institution at the Centennial Exposition in Philadelphia in 1876. The Kindergarten came to us from Germany in 1860. It was not until 1881 that Minnesota established a system of free high schools, and the junior high school first took form in Berkeley in 1908, and if I remember rightly it was the underlying cause of embarrassment to the progressive Superintendent of Schools who moved on to other places. Then, as late as 1848 the first graded school was built in Boston—the Quincy Grammar School.

Now, permit me, if you will, to pass over quickly a few of the major events and in-

Paper read at the Fourth Annual Convention of the Public Schools Business Officials' Association, Fresno, California, March 13, 1931.

*"Fifty Years of American Education," E. C. Moore. Ginn & Co.

ventions of only a few generations ago. The telephone dates from 1875; electric lighting from 1876; electric traction from 1880; the combustion motor from 1885; the automobile from 1894. The first flight of the Wright Brothers was in 1903. You are only too familiar with recent great developments in industrial and applied science for further enumeration, but all of them have had a decidedly marked influence on the development of American Education. And the progress of Education was fundamental to the progress that has been made in School Architecture.

Bulfinch, Richardson, McKim and a few others might be termed the early beacons of American Architecture. Wheelwright, of Boston, was the first architect to be recognized as a specialist in school work. His treatise was the first real effort to record the co-relation between the curriculum and the building. To you of today, familiar as you are with the complexities of the modern school plant, his book, "School Architecture," would prove most interesting; and while it was first published in 1901, after he had served several years as the architect of the schools of Boston, you would realize its contents are a far cry from what we do today in the very same subject. Yet, the fundamental principles are very much the same. Metaphorically, his conveyance was that of the horse and buggy, that of his early predecessors the ox cart, while ours of today is that of the fast auto or the aeroplane. And yet the problem is so subject to extended development that future decades may very well relegate us to the slow motion age.

In like manner the professional relations between Architect and client have advanced to the degree that they are no longer confined to just building a school house and conducting the building work honestly. The latter is a prime necessity; it goes without saying or elaboration; none but a fool would act otherwise. Honesty, however, must be accompanied by other attributes and attainments, otherwise any professional relationship will prove flat and barren. Some of the attributes are competency, seriousness of purpose, a profound respect for an adequate solution of the problem, unselfish devotion to duty and interest of the client, an ethical attitude of mind relative to the rights of the Board, the Contractors and workmen, respect for law and ordinances pertaining to building operations, and integrity in its broadest and fullest sense. And a few of the attainments are: education, whether obtained within or without college walls; skill in the practice of architecture and especially so in this highly specialized field; experience, and judgment seasoned with experience; confidence bred from study and observation; humility of mind gained from retrospection of past errors, decision and firmness in deciding when positive in that which is right. There are many other attributes and attainments that come to light unemphasized as you deal with your architect and work with him in his study of your problems.

But, let me speak of one which is very dear to the conscientious worker, and that is *Thoroughness*. Thoroughness begets almost everything that is good and approximates perfection. Show me the man who is thorough and I'll show you one who will attain great ends if given the opportunity and if he lives long enough, even though it is only in janitorial service.

California and California Education and School Architecture owe a great debt to the legislature of 1915. For in that year was repealed what was known as the Act of 1872, an Act which made it mandatory for Boards of Education and County Offices to advertise for plans and specifications including details if the project or the expenditure exceeded $500.00. And that was not all; it was necessary to furnish a bond of $5,000.00, as a faithful performance bond, so that he could be held accountable if the bids exceeded the appropriation, regardless of the Board's exactions as to floor area or the use of materials prompted by local or other influences.

What a chaotic condition! Can you today imagine what the old boys, and girls too, passed through including both Boards of Education and architects? Well, let me tell you a little about it, for it has an important bearing on the professional relations of Boards and architects.

In the first place, it was not always pos-

sible for both Boards and architects to honestly comply with the law. When the slightest semblance to compliance was attempted it meant that an architect who had built a six or eight room school at Squidunk presented the same plans, specifications and detail to the Board at Podunk and in their wisdom if they were good enough for Spidunk they certainly were good enough for the growing city of Podunk. Execution of the bond was circumvented by the slightest change the Board made to the plans, and responsibility on the part of the architect became null and void with similar subsequent acts after the architect was engaged.

Most everything was done in a haphazard manner. Sometimes if the Board wished to take it out on the architect they might refuse to pay the final portion of his fee and he was damned and be-damned, for sue if he wished, his chances of collecting were slim, for during the proceedings there were sufficient irregularities to make a contest worthless. Also there were many opportunities and temptations for dishonesty, indifference, indolence, neglect and whatnot.

The Act of 1872 and its evasion and half-baked compliance as well as its impossibility as an instrument of service accounts in a great measure for the many wretchedly designed, planned and built schools, built in our State prior to only a few years ago.

What were the professional relations then between the architect and the School Board? Let me say in respect to many of my earlier colleagues that their honesty and intent of purpose were of the highest regardless of their skill or exact knowledge of the problem as it is measured today. And I hasten to squelch any unfair reflection upon the men and women who served their communities as members of Boards of Education, regardless of the comment attributed to Mark Twain. As a matter of fact, there was no definite knowledge of just what were the services to be rendered by the architect nor of his duties or obligations. For had there been such known or generally understood, I can't believe that such a law could have remained in existence from 1872 to 1915, a matter of 43 years. Other states had similar laws and it is my belief that this law still exists in some states, but observed in the breach like the Volstead Act.

Now, lest I overlook a tribute, the Legislature of 1915 was influenced to enact the repeal largely due to the resolutions passed by the California School Superintendents while in convention at Riverside in 1914, requesting that such steps be taken to safeguard the interests of our state and our schools. And they were ably seconded by the two Chapters of the American Institute of Architects at San Francisco and Los Angeles respectively, who wished to see this all important work placed on a basis conducive to the self respect of the contracting parties, a respect for each other and their rights and obligations.

Gentlemen, I have presented this brief historical outline, partly because it is of interest to both you and the Architect and it serves as a prelude to what may follow in this paper.

Returning more directly to the topic assigned to me by your President, in his letter he requested me to present facts which may make possible the presentation of better building programs by school authorities and improve the quality of the work performed by the men of my profession. Also facts regarding the general arrangements entered into in the various parts of the state. Fundamentally, the relationship between architect and client is similar to that which generally prevails between an attorney and his client and that of a physician and his patient. In every respect, save one, the interdependency, the principles of confidence, integrity, ethics and mutual respect are precisely the same. The one exception lies in the methods of approach or contact. With the lawyer and the physician the client and the patient seek the professional assistance, while in most cases, circumstances and custom ordain that the architect seek the client and make known to him that it would please him to serve such client. This isn't always the case, but it is true in most cases concerning public work and especially school work, so we may take it for granted that it is the basis to proceed

on in following the presentation of this discussion.

You can readily see that the architect is immediately placed in what might be regarded as somewhat an unfavorable position to begin with and psychically the first contact is quite the reverse to that between the attorney and his client and the doctor and his patient. This is probably responsible for more misunderstanding and failures in accomplishments than perhaps anything else in the relations of the architect and his work. The architect is compelled to sell himself and his services. That places the owner in the position of a buyer and all buyers sense the impulse to dictate terms and conditions. Bargaining follows, to be succeeded by doubt, misunderstandings and frictions and then perhaps by failure to accomplish anything like satisfactory results ultimately.

Then it is only by dint of strength of character, by confidence in self, by capability, by thorough understanding of the problem, by thoroughness in execution, by zeal in ardor and by many other commendable attributes can the architect emerge from the first disadvantage he is placed therein. As a consequence, the successful architect in school work must know his problem and its many attendant phases. Otherwise, he is forever bewildered and only serving as a follower of his client instead of properly assuming the lead.

When boards of education will seek the man because of his integrity and professional capability instead of he importuning them, then will the greatest progress and developments take place in this very important field of human endeavor. That occurs now fairly frequently and the consequences speak for themselves. However, Boards of Education are a changing personnel and in most instances new members are unfamiliar with the proper and desirable procedure. Consequently, may I say to you gentlemen, it behooves you to exert your influence along the lines of right direction in order that the right relations may exist between you, your Board and the Architect.

Now, let me pass quickly to some of the relations. Primarily he is an advisor and a collaborator. It is his function and duty to fully and impartially advise you and the Board members, as well as the Superintendent of Schools on all matters pertaining to the planning, design and materials and practices entering into the work. He is a collaborator with the Superintendent and you as to the content of the building and in stating the problem of content, functions and correlation of units and groups of units making the whole. As a collaborator he must be familiar with a good deal of your side of the problem and that of the School Superintendent so that he easily follows and timely leads not only in the preparation of the statement, but as the work of the drawings progress and in the preparation of the other contractual documents, as well as in their execution. There are too many relationships involved to attempt to mention herein, but let me bring forth a few.

During the early stages he is your and the Superintendent of Schools' collaborator to get the facts and data properly correlated. As the architectural work progresses, you and the School Superintendent become his collaborators. Now, to be worthy of his hire he must be able to deliver fully and this leads me to that which you have been waiting to hear, namely, what is a just compensation to such a man?

The American Institute of Architects, many years ago, set up a Schedule of so-called *Minimum Charges*, which in brief is that on work let under a general contract, the basic charge should be six (6) per cent of the total cost of the work exclusive of the Architect's fees and where work is segregated or contracts are let separately, an additional fee of four (4) per cent might well be considered as a minimum in addition to the six (6) per cent basic fee. This four (4) per cent additional, or ten (10) per cent in all, we generally consider includes the cost of additional responsibilities, labor and expense placed upon the architect and for additional blue prints, specifications, full size details to each of trades. Also, the segregated plan simply implies that the architect assumes the place of the general contractor as the manager of construction in addition to his duties and

functions as an architect. If the work is of such magnitude, that is, costing about $300,000.00, the architect is in position with his additional fee to engage and pay for the services of a clerk of the works, or what we call the building superintendent. On the other hand, if the cost of the work is less than $300,000.00, it is out of the question to expect the architect to meet the additional expense of the building superintendent and this cost should be paid for by the Board.

Now, whether he is worth six per cent or ten per cent depends entirely upon the man and his capability to follow through. You and I know that a cheap professional man is usually worth less than his hire, no matter how low that may be; and we also know that those who try to engage professionals at low rates always wake up to the fact that they have deceived themselves unwisely. You may say to me, "But we have had the services of men who have accepted low rates and have received excellent results." That may be true, but it was only due to the conscientiousness of the man and due too to the fact that advantage was taken of him and perhaps his circumstances at the time.

I am talking on this matter at this time, for as I read and re-read your President's invitation, I gathered this is just what he wanted brought out for discussion in this meeting and later discussion will clarify the atmosphere or add fuel to the fire.

Now let us look at the economic side of this and see where it lands us. I'll say to you that any architect who accepts a school building job to perform the architectural services for less than six (6) per cent of the cost and if he knows anything at all about the work involved to render adequate services, knows full well that at best the job can be nothing better than a pot-boiler; and all through its execution it carries that hang-dog stigma until at last it is kicked out of the office. Do you want your most important work placed in that polecat category? Most certainly you do not. Furthermore, what does it mean to you? Just this, the remainder of your funds, or the ninety-four (94) per cent of the cost of the work is jeopardized to the extent that you or the people who pay the bill receive in value often less than seventy (70) per cent of the ninety-four (94) per cent, and when all through you haven't anything then to feel proud of.

I know there are school boards who offer their work to architects for four (4) per cent and the Board provides a Chief of Construction and an inspector of the work. I have had some experience myself with that sort of an arrangement and I can speak feelingly and I know the attitude of mind of the good men of our profession regarding such arrangements, and my best statement regarding it is that I hope that men and women of responsible stations will never again establish conditions that belittle the architect's respect of his value to his fellow men and to himself.

It will interest you to know something of the disbursements of the architect's fees. And this comes from one who has kept records over a period of twenty-five years and my quotations to you today are from the most carefully audited accounts during the last seven years, involving fees amounting to $450,000.00 on work costing $7,500,000.00. We find that on almost every case the segregated costs of operation on each job are as follows: 35% to 40% of the 6% fee is spent upon the drawings and engineering; 30% of the 6% fee is consumed by the overhead, leaving from 30% to 35% for reserve and remuneration to the Architect. But let us see what takes place with this reserve and remuneration over a period of years, and I am choosing an active period, namely, the last seven years, and on work involving over $7,500,000.00.

The records show that 3.3% of the total cost of the buildings, or $247,500 went into drafting and engineering salaries and supplies; 1.8% of the cost of the work, or $135,000.00 was spent on overhead, leaving 0.9% or $67,500.00 for the architect, or in other words, $9,643.00 a year for seven fairly active years, and mind you, the architect's personal remuneration or salary is included in this 0.9 of 1% and in no other part of the cost of operation, and he has the responsibility of the undertaking as far as the professional services are involved and whatever risk there may be to

carry on successfully. Reduce the volume of work and the reduction of returns automatically follows, so when you find men carrying on in a smaller way you can be assured that the margin of profit is slight. Then if you take the years of little or no activity you can easily realize why the butcher and the baker very often consider the man with a steady job a good credit risk.

Now just a word further regarding the building superintendence or constant inspection of the work. The cost of this must be borne by the Board of Education for their own protection as well as that of the public funds and the safety of the children, to say nothing of fairness to the architect and the job itself. Show me the job poorly executed and I know immediately that the job had no worth-while direct or constant supervision. You don't want that; the public doesn't want it, and it happens only because the Board are laymen and are not properly enlightened as to the right course to follow.

In closing, gentlemen, may I say a word of friendly admonition, inasmuch as you have invited me to address and advise you regarding the proprieties relating to architects and Boards of Education. Don't be smart at the expense of the other fellow. He has his sensibilities just as you and I. He has his obligations just as you and I, and those obligations extend further on and down to men dependent on him for their human, and may I say their spiritual salvation. This problem of ours is too fine a game to be marred by tawdry sportsmanship at the expense of the other chap who is striving to arrive, or the good old barnacle who is battling to hold on. Neither is it a game where we can afford to act penuriously nor acrimoniously, because it is the welfare of the kids that is at stake. In fact, I'll safely say to you that the future of the good old country itself is at stake in what we do.

America has glorified its schools. It has poured boundless wealth into the problem in order that it may arrive at the highest pinnacle of achievement and it continuously pours more so that those who follow may have a fair chance of knowing the truth and that they may be equipped to be useful to themselves and to society. These fundamentals are the foundations of patriotism and love of country. So why should you strive to cramp your fellow worker and why should he be handicapped by cut fees in his effort to research and produce and create in order that humanity may participate in and enjoy the blessings of the mind of man.

I am quite conscious of my position here before you today. I am not endeavoring to sell the services of myself or that of my colleagues; nor am I defending their position. Your needs require the former and their accomplishments need no defense, but I am endeavoring to show you the light; to direct your course; to guide you along that course so that you too may happily sense and share the joys of achievement in the work of which you play no small part.

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ORNAMENTAL IRON DOORS, MARK HOPKINS HOTEL, SAN FRANCISCO
WEEKS AND DAY, ARCHITECTS

ORNAMENTAL IRON CORNICE TO MIRROR FRAME, SIR FRANCIS DRAKE HOTEL, SAN FRANCISCO

ORNAMENTAL IRON IN ARCHITECTURE*

by L. L. HOUT, Architect

SINCE the legendary days of Tubal Cain, iron has been employed in utilitarian capacities, probably first as accessories and implements, later as necessary parts of the building, its tractability making it popular for these things and also encouraging the development of skill and artistry, so that all the utilitarian objects in which it was employed were beautified to such an extent that they became highly ornamental.

Throughout the various periods of buildings we find iron employed in strictly utilitarian situations gracefully disposed. Weathervanes, roof finials, gates, windows and door grilles, fences, etc., with well developed compositions, were so effectively studied that when executed by skilled artisans they became splendid examples of art.

All who beheld these things were so unconsciously thrilled with the greater idea embodied in them, that the ornamental function soon displaced and overwhelmed the idea of their purpose to such an extent that hand forged iron as employed in construction was looked upon as ornamental iron. So nobly has wrought iron responded to the call for decoration that it is even more popular than ever before in all classes of buildings. It is used intelligently generally, but otherwise all too often.

Some speculative builders of a certain type use the copied forms in weird situations indeed. A wrought iron balcony much dwarfed and placed in the gable of a stucco house with not even a ventilator behind it, can perhaps be rightly called ornamental iron, even though nothing but the swallows or pigeons could find it either useful or ornamental.

The accommodating nature of wrought iron recommended its use for so many of the necessary accessories of building that its manufacture soon grew to be a considerable industry. Naturally its forms were copied in various other materials such as bronze, aluminum, etc. There is scarcely a monumental or semi-monumental building constructed anywhere but finds many uses for ornamental iron in its make-up.

*Illustrations, courtesy Michel and Pfeffer, San Francisco

Banking institutions feel the need perhaps more than any other type of commercial structure. The grilles in the windows seem to give confidence to the bank's patrons and they recall the days when such institutions were necessarily fortified against attacks by bandits.

CAST IRON RAIL, MAIN STAIRCASE, SIR FRANCIS DRAKE HOTEL, SAN FRANCISCO
Weeks and Day, Architects

The methods of the robbers have changed, but we still like to see the strong, inspiring grilles in the large windows. Upon examining them we find, alas, that they are in many cases built up from cast iron, brittle and somewhat of a sham, but they are, after all, ornamental iron, and they serve a greater need than mere defense, which as I have mentioned before, is no longer required in that form. The grilles add scale and dignity to the structure at least, and this is a necessity which can be supplied in no other manner.

During the renaissance period in Europe, the craft was highly developed and finally intrigued many of the best artists of the day. We could go back in history and perhaps make up a considerable list of the artists who were called upon to visit foreign palaces to design or supervise the design and construction of many a fine composition in iron. Church screen railings, etc., were conscientiously studied and meticulously shaped.

France and Spain seem to have pro-

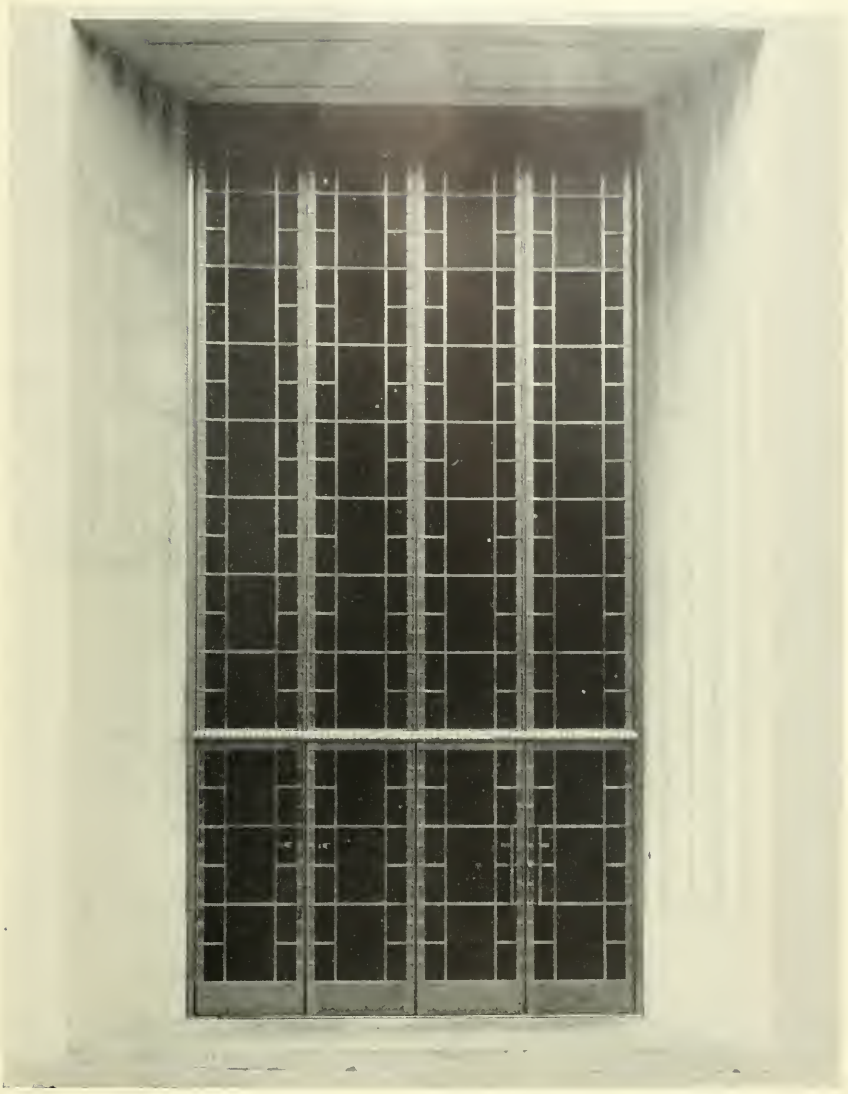
gressed further than other countries of the time in this Art, although northern Italy still has many fine examples of lanterns, grilles and hand wrought doors in the metal work of the Renaissance period.

In the United States the wealthy planters of Virginia and the shippers of New England, becoming more affluent during the Colonial days, soon sought to build finer homes and as a natural result, iron work played a most important part in their schemes. We still find many well preserved examples of nicely executed artistic stair railings, grilles, mud scrapers and hardware from this period of the Georgian days. There is no iron work having a more graceful swing nor a more airy grace than the iron work wrought during this period.

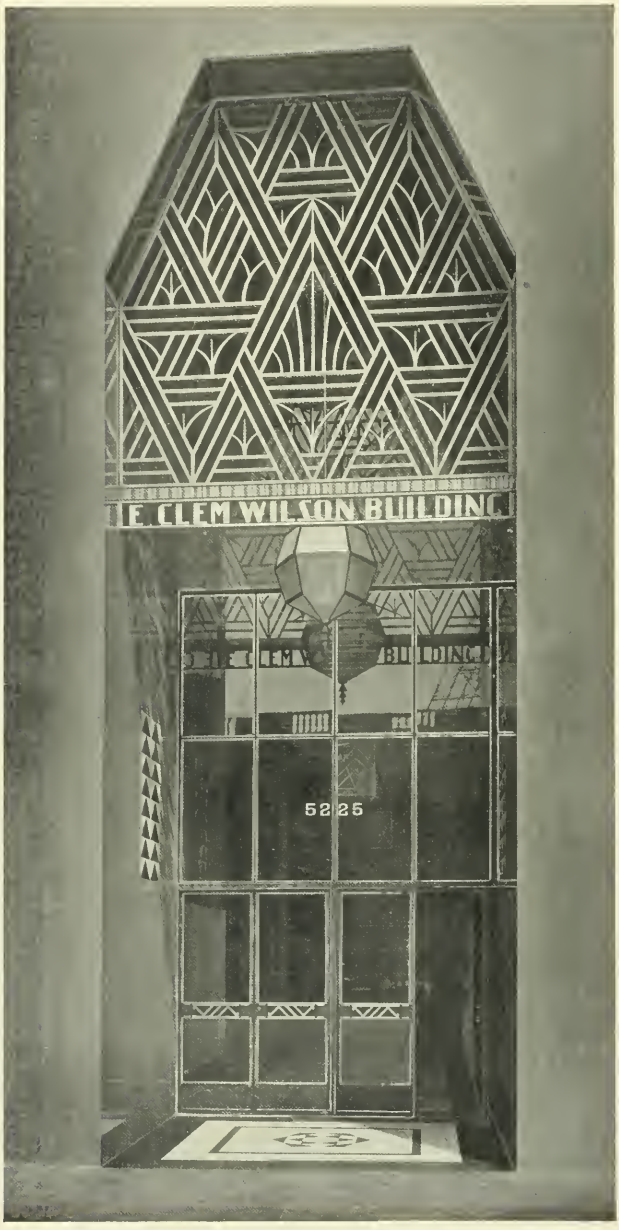
Later the Colonies passed through a more decadent era and the delicate wrought iron of the former times was displaced by iron work cast in foundries. Heavy, graceless designs seemed to predominate; poorly executed imitations of natural forms, grape vines, etc., were the vogue. Balconies, porches, etc., were the principal uses of this new style. For the most part it was ugly, yet we still find many rather attractive pieces of this work. I suppose if we had lived in that time when it was all the rage we should have thought it wonderful just as people of today revel in many in-

DETAIL OF ORNAMENTAL IRON STAIRCASE, SIR FRANCIS DRAKE HOTEL, SAN FRANCISCO
Weeks and Day, Architects

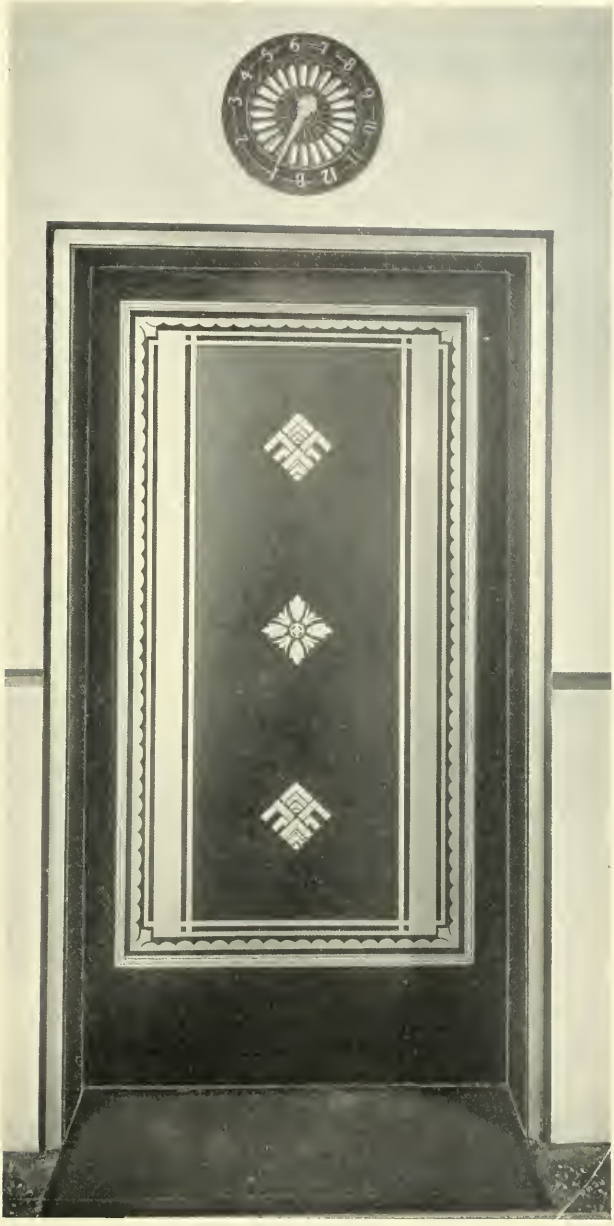
BRONZE GRILLE IN STOCK EXCHANGE, SAN FRANCISCO
MILLER AND PFLUEGER, ARCHITECTS



BRONZE ENTRANCE, STOCK EXCHANGE, SAN FRANCISCO
MILLER AND PFLUEGER, ARCHITECTS



MAIN ENTRANCE, E. CLEM WILSON BUILDING, LOS ANGELES
MEYER AND HOLLER, INC., DESIGNERS AND BUILDERS



ELEVATOR DOOR, E. CLEM WILSON BUILDING, LOS ANGELES
MEYER AND HOLLER, INC., DESIGNERS AND BUILDERS

congruities of building which popular fancy will some day abhor.

The modern office building furnishes considerable field for good ornamental iron (or other metal, for the substitution is merely one of material and not of form), in elevator doors, chandeliers, hardware, etc., while delicate, yet sturdy, hand rails are displacing the heavy, cumbersome ones of days gone by.

Greater window area is being gained by the use of metal for the sash and frames. This is now considered as a purely necessary use of metal, but it is derived from the first attempts to make the sash and frames an inconspicuous feature, thereby adding ornament to the building by its unobtrusiveness.

The uses of ornamental iron have kept pace with and helped civilization in its progressive march. What the next step will be or whether we continue in that direction is a problem to anticipate. However, there are unmistakable signs which presage an attempt to beautify even such things as gas tanks, etc., and this can be partly accomplished by giving thought to the iron and steel forms which make up the now ugly masses. The age is calling for more refinement. An automobile will not sell unless it presents an attractive appearance, and the same thought is being extended to other things as well. In many cases the only solution is a careful study of the iron forms, not necessarily frivolous jimcracks but a chaste and careful treatment of the ornamental iron.

That a new impetus has been given to the revival of iron work must be apparent to all who observe the many new homes of the better class being constructed in the historical styles. Though these homes are somewhat modified and modernized, they still make a determined call for ornamental iron of appropriate character. The living habits of the people, especially those residing in the milder climates, are such that doors and windows are used for ventilation. This fact alone is responsible for the need of much ornamental iron in the form of grilles, for nothing but a sturdy iron grille can admit the fresh air and at the same time restore to a sleeping family the assurance which is lost by an open door or window.

In California and certain other states the grocery stores and markets are always completely open, on one side at least. At night these sides are closed by means of folding screens which at the present time, although fairly neat, are not as yet in the class of ornamental iron, but they obviously belong in such a classification and the time is not remote when such screens will be made ornamental, thus increasing the field to include another very essential element of structural accessory.

Many people believe that the faculty of making good ornamental iron is a lost art that it died long ago, but when we look upon the work of such artists as Samuel Gellin and others we realize that the introduction of new tools and equipment has opened vaster fields to this art than existed in the days of the Renaissance.

ARCHITECTURAL REFINEMENTS

by WM. LEE WOOLLETT, Architect

ARCHITECTS have in all ages given evidence of their appreciation of the requirements of color harmony in architecture. The architectural refinements in the Greek and Egyptian temples in the architecture of the cities of Central Italy after the time of Giotto, and in certain Medieval buildings, as discovered by Prof. Goodyear, and other architectural experts, are to my mind, in many instances, the result of the painter's as well as the sculptor's instinct; because the curving surfaces noted, more often have a greater intrinsic effect in qualifying the tone values on the building than in changing the profiles as such. The high lights in curving surfaces can be seen on stylobates and entablatures and walls of the Egyptian temples and on the walls of the Medieval structures. The effect of "snapping-up" the picture by giving a chief point of contrast and interest would well be an ample excuse for the curved surfaces in the above instances.

That these effects were the deliberate intention of the ancient architects is not proven, but can hardly be doubted, for the architects of that period were often sculptors and painters as well, and consequently knew the effect which comes from fat or rounded surfaces. It would be quite natural therefore, for these architects to combine the arts of architecture and sculpture. In the case of the Greek temples the vibrant quality and subtlety of the tones on the wall surfaces, as a result of contrasting planes of the stone faces and the bending of the wall as a whole would indicate a deliberate desire for play of color on the facade. We are willing to believe that the Greeks who had a wonderful sense of color values indulged their tastes in this direction. The effects in the buildings are sufficiently prominent to induce us to conclude that they could be seen by the builders and were not accidental effects.

The marvelous sculpture of the age, which is subtlety itself, is the crowning evidence of this highly developed sense for color values. The blending of one plane into another, the juxtaposition of finely adjusted surfaces, the absolute reliance on delicately balanced shadings in the modeling of the best Greek sculpture, would indicate a very highly developed sense of tone values.

The effect of vibration, of life, which we notice in some of the Greek temples, is produced partly by curving lines and deviations from lineal symmetry almost too delicate to be noticed. Purely as a matter of line refinement, the deviations are of value aesthetically if they are noticeable to the eye and thus capable of producing a definite sensation. The mind must receive a distinct impression before a reflex occurs. Some of the lineal refinements in the Greek temples have passed unnoticed for centuries, and some are so finely drawn that only by careful photographs can they be made manifest. But the casual observer can see the effect of these refinements in the varied high lights on the surfaces. For centuries men have been charmed with what they have been pleased to term "the life", "the vibration" in the Greek temples without knowing just why.

The sense of vibration, however, must come from the effect of light and shade on surfaces as well as from delicate lines and softened profiles, for the reason that the line deviations are for the most part unnoticeable except to the expert observer.

There are basic psychological reasons for the use of color values or high lights in architecture.

A primary emotion is produced by graded lights and shading of surfaces which is quite different from the effect produced by the softening of profiles, or by

curving lines that they may appear straight.

The reason for this is grounded psychologically. In all forms of life we are accustomed to associate the rounded form, the egg, the ovum, all forms which reproduce themselves from the cell in protoplasm, the protoplasta, to the ostrich egg with life and change. The raindrop, all transient moving or growing forms are more or less bulbous in form, whereas permanent masses as rocks, metals, wood, etc., exert their potential energies in straight lines and their bounding surfaces are more likely to be in planes than to be curvilinear. It is with difficulty that we conceive of a cubical egg or rhomboidal caterpillar. A column support shaped like an egg does not appear strong nor would we use structural forms suggested by the shape of the protozoa. Our contact with natural forces tends to the predilection that rounded forms and curves are lifelike, and that straight lines and flat surfaces are inert and unchanging. This view is true, of course, only as a generalization, but true enough so that we may assume its absolute accuracy so far as psychological impressions in reference to art are concerned. The sculptor obtains a sense of life by making his planes "fat" and by the laws of association the indication of roundness results in a sense of amplification of dimension, of life, of growth, of movement and of unity. This point, so well known to the sculptor, is aptly illustrated in the facade of some of the Greek temples—the temple of Juno Laninia at Girgenti for instance. So marked is the difference in tone along the line of the cornices on the flanks of this temple, that looking with half-closed eyes one could imagine that there was a very decided curvature. The flush of high light on this great expanse of masonry supposed to be straight is electrifying to the sculptor. The mind, of course, at once gets the unconscious sense of the unity implied and an impelling sense of a capacity for movement grips one. The idea of power in this temple is overwhelming. The imagination is fixed in the thought of the whole. The temple is no longer an assemblage of parts, of stones, separate—piled up one upon the other, but a living thing. A feeling of completeness comes from the sense of power thus portrayed. Surely the limits of accomplishment have been attained when the very stones become alive. To create the impression that an enormous pile of masonry is one living, moving thing, having personal vitality rather than a mere pile of individual stones, is a worthy aim and if the ancients did not have this concept they at least have by their work made a very high conception of the art of architecture feasible for us.

But to conceive this creation of man as belying its finely moulded flanks, as being alive in the crisp air and sunlight, is a feat reserved for the imagination of him who has a fine sense of color values.

Refinements in any art are for the most part the pleasure of the adept. There is a counter influence upon such which tends to accentuate the emotional effects, i. e., the architect, knowing that he has created many slight deviations from straight lines and flat surfaces, undoubtedly reads a greater amount of vibration into his building that actually exists. However, the simple fact that these things are appreciated with enthusiasm by the layman of today is evidence of their aesthetic value and presages for the modern artist a new phase of art.

An appreciation of the law and order in the mind of the creator of such a building as the Greek temple is desirable because the Greek architect struck the most profound note in art that our civilization knows. Not to create as this Greek created, but to know the law and to have the same quality of intelligence, the same capacity for abstract thought. It is presumed that when all the elements entering into a work of art are the exact expression of an intelligent creator's mind, we will have such a harmony as to produce a universal understanding and appreciation. Creative intelligence comes from the proper co-ordination of all of the phases which go to make up perfect architecture and an appreciation of color values is not the least of these elements. The modern architect is not a colorist or a sculptor. The modern architect is not a painter or a sculptor. The architect of the Parthenon was all three undoubtedly.

HOW THE NEW COPYRIGHT LAW WILL AFFECT ARCHITECTS

by WALDON FAWCETT in "Pencil Points"

TO the ultimate concern of architects and all persons connected with any branch of the architectural profession, the Congress of the United States is engaged in a reconstruction of the copyright system of the nation. At this writing, two comprehensive measures, designed to accomplish this purpose, have been approved by the U. S. House of Representatives and await the concurrence of the Senate. Even should final enactment be delayed by parliamentary impediments it is, we are assured, only a question of time until the creative spirit in America will have the benefit of improved and modernized protection against imitation and the theft of ideas.

The situation is unique in that, for the first time in the history of this country, and probably for the first time in the history of the world, a nation is undertaking to provide at one venture adequate shelter for property rights in "intellectual property" and in "industrial property", so called. This dual program involves, on the one hand, revision, amendment, and consolidation of existing laws. On the other hand, there is necessitated the erection, in law, of a wholly new structure designed for the custody of fruits of genius and the inventive faculty which have heretofore been accommodated not too satisfactorily in the U. S. Patent system.

Briefly, what is in progress at Washington is, first, a revision of the General Copyright Law (with incidental arrangements to permit the United States to enter the International Copyright Union) and, second, the setting up of a new system of Design Copyright destined to safeguard from infringement all species of original ornamental designs expressed in or applied to articles of manufacture. The General Copyright, applicable primarily to literary and artistic works, is commonly referred to as the Copyright for objects in the fine arts. The Design Copyright would, intentionally, concern itself more directly with subject matter in the applied arts. However, the line of demarcation is not always readily drawn and a series of official rulings and judicial pronouncements might be required to determine into which jurisdiction difficult examples should fall.

Just how, specifically, will the shake-up of copyright traditions affect the architectural profession and kindred activities? Answer is in order before closer examination be made of the details of the new law. Contact is made with architectural interests via the inclusion in the General Copyright of "works of art", "maps", "photographs", "books", "periodicals", and "contributions to periodicals". Here is accommodation even for architectural specifications. But, as though to confirm its jurisdiction, the Copyright Revision measure goes on to enumerate as eligible to entry "works of architecture, models or designs for architectural works", and "drawings and plastic works of a specific or technical character".

Design copyright, the twin of the new conception of literary and artistic copyright,

is, perhaps, the more indirect in its contact with the architectural profession and yet is it notable in constructive promise to the cause of originality in architecture and building. Within the scope of Design Copyright would fall all the designs expressed in manufactured elements employed in building or landscaping operations provided the appearance of the products of industry be enhanced by the shape, form, outline or surface ornamentation. Under the limitations to design protection imposed by the Design Patent system, piracy of designs has been rampant in many lines. It is claimed that Design Copyright, or Design Registration, as the forthcoming substitute is sometimes denominated, will, by providing insurance for the earned rewards of originality, supply the incentive that will bring higher standards of artistry in lighting fixtures, plumbing appointments, and other commercial lines upon which architects are more or less dependent; not to mention the equivalent influence in the fields of wall coverings, floor coverings, upholstery, draperies, and furniture.

While architects will be extensively affected by the new status of artistic and literary copyright, neither architects individually nor organizations of architects have taken so active a part in the agitation for revision as have the members of other artistic professions. The explanation is found in the fact that architecture has been comparatively little affected by the new trade practices resultant from the entry of certain new forms of expression. It is these new forms, notably the motion picture, the radio, television, etc., which, more than all else, have rendered antiquated in many respects the Copyright Act of 1909 which has been applicable up to this time.

From the standpoint of architectural interests the supreme, revolutionary feature of General Copyright Revision, now in the making, is to be found in the establishment of the principle of "automatic copyright". Under present conditions, securance of copyright is attended by some delay and involves red tape at the preliminary stage. Automatic copyright, as created in the prospective law, confers copyright for everything from the time of its making, without reference to publication and without any formalities. The new law would do away with the requirements of notice, registration, deposit, and American manufacture as conditions of copyright, although American manufacture would be retained as a condition for bringing suit in certain cases.

The new copyright charter provides, in so many words, that from and after the creation of a work the creator shall have the exclusive right to copy, print, reprint, publish, produce, reproduce, render, or exhibit the copyright work "in any form by any means and to transform the same from any of its various forms into any other form and to vend or otherwise dispose of such work." It is stipulated that copyright is distinct from the property in any material reproduction of the work, and the sale or conveyance, by gift or otherwise, of the material reproduction shall not of itself constitute a transfer of the copyright. No more shall the assignment or license of the copyright constitute a transfer of the title to the material reproduction unless expressly stipulated.

An architectural exception to the general rules is found in Section 8 of the Bill, as it passed the House of Representatives, which reads as follows: "The copyright of a work of architecture shall cover only its artistic character and its design and shall not extend to processes or methods of construction, nor shall it prevent the making, exhibiting or publishing of photographs, motion pictures, paintings or other illustrations thereof, which are not in the nature of architectural drawings or plans, and the owner of the copyright shall not be entitled to obtain an injunction restraining the construction, substantially begun, or use, of an infringing building, or an order for its demolition or seizure."

Architects have an interest also, above the ordinary, in Section 4 of the Bill of Revision which provides that Copyright secured by the Act shall extend to any work subject thereto to the extent to which it is original, "notwithstanding it is based in part upon, or incorporates in whole or in part some previously existing work." There is a reservation to the effect that reemploy-

ment of inspiration old in the arts shall not extend the copyright, if any, in the previously existing work nor recreate copyright therein. Finally, architects, more than many other classes of creative workers, are interested in the extension of the term of copyright protection. Under the pending proposal the term of the copyright shall be for the life of the author, if living, and for a period of fifty years after his death, except that where the author is not an individual (as in the case of a partnership or corporation of architects) the term shall be fifty years from the date of completion of the creation of the work.

To the everyday working architect, the immeasurable advantage of automatic copyright is that it would operate mechanically to set up a long-term monopoly in the use and capitalization of any unique flight of imagination that came to the creative worker, and would thus "stake the claim" when the architect was, say, engrossed with other matters and thus neglectful of his rights, or when he had not realized the value of his conception. In short, automatic copyright is self-starting protection, coming into play instinctively at the birth of an idea. Most important of all, it places all responsibility on the users of copyrighted material. Instead of leaving it to the architect to take precautions against the unauthorized appropriation of his ideas, automatic copyright places upon the user or reproducers of copyrighted material the onus of giving satisfaction to and obtaining permission from the owner of the copyright. No notice of copyright would be required on any work copyrighted under the revised Act. Moreover the Bill provides that omission of copyright notice shall not be taken as evidence that no copyright is claimed nor affect the validity of the existing copyright.

The Copyright fee prescribed is $2, which sum is to include the delivery to the applicant of a certificate of registration under the seal of the Register of Copyrights. A copy of the subject matter must be deposited in the Copyright Office to effect registration. For an architectural work this specimen may consist of a photographic or other identifying representation of the work, together with such drawings as are necessary to complete the identification. The photograph is also an acceptable means of identifying, for purposes of copyright, a model or design for a work of art, or a drawing or plastic work of a scientific or technical character.

Perhaps few architects realize that under all heretofore existing copyright legislation there has been no specific recognition of works of architecture as eligible for copyright. The separate enumeration of architectural models and designs in the new measure is therefore a significant acknowledgement of the property rights inherent in concrete examples of architectural achievement. It is just possible, too, that architects may, in one way or another, receive more benefit than they suspect from one of the outstanding innovations of Copyright Revision, but one that at first appraisal has not been popularly interpreted as holding any blessings for architects in particular.

The provision, scorned or neglected in architectural opinion, is the one embodied in Section 9 of the Bill which provides for what is known as "divisible copyright". Having provided, in effect, in the opening section of the new draft that copyright is inherently and inalienably in the person who created the subject matter that is to be conserved, the proposed Act goes further and sanctions a split-up or subdivision by the copyright owner of the several forms of subsidiary rights.

To illustrate this multiple application, there might be cited the case of an architect who prepared text and drawings for a periodical publication. Under present conditions, the architect who parts with his contribution for a valuable consideration surrenders "all rights". Unless by special arrangements, remuneration for supplementary uses of the material goes to the purchaser of the full rights. Under divisible copyright, the architect would part with only the periodical rights to the first party and would retain, for disposition elsewhere, the rights in his material for book publication, or translation into motion picture or theatrical employment, or what not. It is only at first glance that the archi-

tect appears to have but a minor interest in this plan to break down the tradition that copyright is always one indivisible property right. A moment's reflection is sufficient to demonstrate that the proposed divisability may well become a boon to architects who evolve elements of architectural form or design that are transferable or adaptable to the purposes of industry and the decorative arts. All this is conceivably more important for architects in the possibilities of tomorrow than in the realities of today. It is only necessary to review the progress of invention during the past few years— color photographv, the radio, and what not—to foresee the possibility of ultimate profitable utilization for the by-products of architecture that may be reserved under divisible copyright.

Design Copyright, as distinguished from the older form above described, is essentially a species of copyright for the industries (the art industries) as distinguished from copyright for the arts. On impulse, one might say that the contact of Design Copyright with architecture was more remote and less extensive. Yet is there a definite relationship or potential relationship, because architecture is so intimately associated with the building industry in all its various ramifications. To be sure, the architect may command the resources of Design Copyright only when his conception has found expression, to an ornamental end, in an article of manufacture. But that diversion of the attainments of architecture to the purposes of industry is feasible enough to give architects a participating interest in the shift of the responsibility of design protection from the Federal patent system to the national copyright system.

Various gains are accounted to warrant the change. For example, the lowering of official fees and the expedition of Governmental certification. From the standpoint of the architect, however, the outstanding concession is the exchange of invention for authorship as the basis of industrial design protection. Under present conditions a design, to be patentable, must qualify as an invention — an exaction particularly irksome in architecture where so much of current attainment consists in the rearrangement of elements old in the art to produce a new or different effect. Design Copyright does not demand the unique.

DAWN OF A NEW ARCHITECTURE IS HERE

says HARVEY W. CORBETT

REJECTING imitation, architects and producers will create in America an architecture more splendid than the world has ever known, it is predicted by Harvey Wiley Corbett of New York, chairman of the Architectural Commission of the Chicago World's Fair in 1933, in a statement made public by the American Institute of Architects, of which he is a Fellow.

Architectural styles based on models from the past have served their purpose, Mr. Corbett declares, and are giving way to "a style of architecture which will not be a rehashing of something that has gone before; which will not be masquerading in borrowed clothes, but which will be a style and type of building absolutely expressive of this time, of this age, and of our life."

Our whole social organization, our industrial, commercial and educational institutions, are so totally different from anything the world has known before that for us to continue to try to house those industries within old forms that came out of the Middle Ages and antiquity is ridiculous, he asserts.

"Architects have not been entirely to blame in their use of older styles of architure. They have had an enormous problem. In America alone in the last hundred years, perhaps in the last seventy-five or fifty years, more space has been enclosed, greater value expended, than in any previous era in the history of the world.

"That is the problem that has confronted the American architect. It was a tidal wave of building, and had he not had the architectural styles, the precedent of Europe, as a basis for conceiving his building and his design, he would have been swamped."

Architects are now moving away from older conceptions, Mr. Corbett explains, because producers have engaged in scientific research, and have devised new materials with which to build. "The architect must step into that picture," he points out, "and use these things intelligently, make functionalism a basis of design, and move along in his art with the science of the producers.

"Architects today look upon producers as collaborators in this great building industry, the largest single industry in the world. They expect producers, in their capacity as manufacturers, to help in the research work which must be done to solve mutual problems.

"The architect has begun to open his eyes, and to think of new products in terms of their use and the advantage it would be to have them not as an imitation of something else, but for themselves, and to create new forms of construction which are more logical and economic than methods of construction which are now in vogue.

"When one sees a man on the fortieth or fiftieth story of a steel frame building, laying brick exactly in the manner that the Egyptians did 6,000 years before Christ, one wonders how much the architectural world has advanced in its ideas.

"A building is the most complicated machine manufactured by man. The automobile or the printing press does not begin to equal the complications of a great modern

structure as it is erected in our cities today.

"Thirty years ago, an architect was an artist in every sense of the word. It was possible for an architect in those days to know personally all that it was necessary to know about a building. He could understand the materials with which he was working as a painter does.

"This situation lasted for some years, but the building industry became increasingly complicated. In the Metropolitan Life Building, for example, the architects had the problem of a building in its final form to contain some 25,000 clerks. That is a large population for one building. It is about twice the population of the city of Athens at its height.

"The architect in this new era is ceasing to be purely an artist fashioning an aesthetic creation, and is becoming the co-ordinating director of a complex building operation."

A close working alliance between architects and producers is taking shape throughout the country, according to Mr. Corbett. The Producers' Council, a national body representing most of the major manufacturers of building materials and equipment in the United States, has organized Producers' Council clubs in New York and other cities.

These clubs, which are expected greatly to multiply in number during 1931, will serve as public forums for the study and discussion of the problems of producers, architects, engineers, contractors, builders, and other groups.

NATURAL BACKGROUND GIVES CALIFORNIA CITIES PERSONALITY

PACIFIC Coast cities areachieving personality by capitalizing their natural background, California architects and civic leaders declare in a symposium on individuality of cities conducted by the Committee on City and Regional Planning of the American Institute of Architects, of which Charles H. Cheney of Los Angeles is chairman.

William L. Woollett, George D. Hall, Henry F. Withey, C. J. S. Williamson and Mrs. William W. Slayden of Los Angeles, are among those who urge planning control.

Development in keeping with local historical background is urged by Mrs. Slayden, president of the California Federation of Women's Clubs, who cites Santa Fe, N. M., as an example of individuality resulting from adherence to tradition.

"The structures which have been erected from time to time have followed consistently the earlier Spanish and Indian buildings, of which there are still many well preserved," she adds. "Although the architecture does not express the cultural background of the present inhabitants, it is admirably adapted to the local climate and topography. The resulting charm is outstanding.

"I feel that in carrying out our community programs of development, we should make the most of our history, as a proper setting. Monterey has great charm for me for this reason. There is much individuality, and all centers around its historical setting."

The importance of architectural control in the planning of cities, including the removal of such "eye sores" as ugly signs, billboards, poles and wires, is urged by Mr. Withey, Los Angeles architect.

"A city," he says, "or a community has charm and individuality to that degree that its citizens have character and an appreciation of the arts and of the beauty of nature. If a city is ugly it is because of the ignorance, indifference and neglect of its people.

"Our zoning and building laws have proved their worth times without number. When in the past cities grew up haphazardly, a definite plan of development now is set up and followed into execution. In California no better example of this is had than in the Palos Verdes Estates development. Already, although but a few years old, it has developed a character and charm that is quickly recognized by every visitor.

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ENGINEERING

and

CONSTRUCTION

Second Article
Featuring
"Fabricrete", a New Method
of Fireproof Construction
for Buildings of Light Load
Occupancy

by WALTER T. STEILBERG, Architect

* * *

Reid Sheet No.

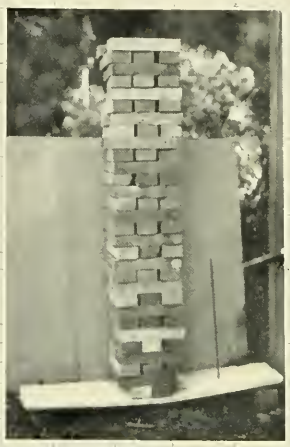
FLEXURE, SHRINKAGE & ABSORBTION TESTS OF FABRICRETE SLABS

Item	Specimen No / For data regarding	21 Roof #4 M.Wd.L.	22 Roof #4 M.Wd.L.	23 Fabr. Doors	24 Pumice aggreg.	Average
1	Total Thickness	1¼"	1¼"	1¼"	1¼"	
2	Dep.th to Bottom St.	—	—	1"	—	
3	Length (when made)	48"	48"	48"	48"	
4	Length (at Test)	Shrinkage not measured.				
5	Stone or Gravel	Roof G.	Roof G.	Roof G.	Pumice	
6	(parts + size)	2-⅛ to ⅜	2-⅛ to ⅜	2-⅛ to ⅜	2-⅛ to ⅜	
7	Sands	1/100 to ⅛	1/100 to ⅛	1/100 to ⅛	Pumice	
8	(parts + source)	1-Felton	1-Felton	1-Felton	1-1/100 to ⅛	
9	Fine. Mod of all Ags	3.54	3.54	3.42	—	
10	Cement (parts)	1	1	1	1	
11	brand	Yos.Cel.	Yos.Cel	Yos.Cel	Yos.Cel.	
12	Water (ratio to cem	.7	.6	.7	1.	
13	" Temperature	64	63	66	62	
14	Other ingredients	—	—	—	—	
15	Slump.	2"	1½"	2"	½"	
16	Plasticity	—	—	—	—	
17	Steel: Mesh or Spacg			6" o.c.		
18	Steel: Guage or Size	No steel	No steel	2-¼" @ 25	No steel	
19	Steel: Area per ft wd.			0.12 sq.in.		
20	Steel: Percentage			1%		
21	Special Steel			—		
22	Cost per cu (Matls					
23	Date of making	Dec.30	Dec.30	Dec.30	Jan.31	
24	Air Temperature	—	—	—	—	
25	Mix, method + time	H. 3min.	H. 3m.	H. 3m	H. 3 m.	
26	Plastered against	/	/	/	/	
27	No. of coats	/	/	/	/	
28	Bonding surface	/	/	/	/	
29	Poured against	a.l.p.	a.l.p.	a.l.p.	a.l.p.	
30	Surface finish	Sc.+T.	Sc.+T.	Sc.+T.	Sc.+T.	
31	Surface refinish	/	/	/	/	
32	Surface hardener	/	/	/	/	
33	Cured in	damp b.	damp b.	damp b.	damp b.	
34	at Temperature	60 to 70	60 to 70	60 to 70	60 to 70	
35	Age	28 d.	28 d.	28 d.	28 d.	
36	Span c. to c.	40"	40"	40"	40"	
37	Max. deflection	—	—	½"	—	
38	under Load of	—	—	630	—	
39	C. Breaking Load	321	315	651	97	
40	Distributed Br Ld	/	/	/	/	
41	Impact Brkg Force	/	/	/	/	
42	Nature of Failure	Flex.	Flex.	Bond.	Flex.	
43	Percent Shrinkage	—	—	/	/	
44	Percent absorption	6%	6%	/	/	
45	M. = Wl/4 or Wl/8 (+300)	3,510	3,450	6,800"	1,170	
46	fc. M ÷ ½ k j b d²	/	/	3,400 #/□"	/	
47	fs. = M ÷ j d As	/	/	65,000 #/□"	/	
48	S W ÷ 2 b j d	10.6 #/□"	10.2 #/□"	31 #/□"	3.6 #/□"	
49	M.R. = M ÷ bd²/6	1,120	1,100	—	375	
50	fc (Cylinder Comp.)	/	/	/	/	
51	fs Direct tens of St.	/	/	/	/	
52	fct (" " of Concr)	/	/	/	/	
53	Remarks	No shrinkage, direct tension or direct compr. tests were made for these specimens.				

Abbreviations

11 Yos. Cel. = Yosemite Celite
25 H, 3 min = hand mix, 3 minutes
29 a.l.p. = asphalt laminated building paper.
30 Sc.+T. = screeded + troweled
33 damp b. = damp burlap.

Mod. of Rup. Sandstone about 1200.



Slab No. 23; 1¼" x 12"; reinforced with 2-⅜" ϑ (1⅛) Span 40"; Central load, 630# Ult. L. = 651# M = Wl/4 = 6500 + 300 (for slab wt.) = 6800"# f c = 3,400 #/□" ; fs = 65,000 #/□" Failure due to slipping of bars (bond failure)

Slab No. 21. 1¼" x 12" (no reinforcing) Span 40", Central load 295# Ult. L. = 321# M = Wl/4 = 3210 + 300 (for slab wt.) = 3510"# Modulus of Rupture = M ÷ bd²/6 = 1,120 #/□"

Note that the specimens reported above were allowed to set and were cured without restraint (other than that provided by form friction and by the bars in specimen No. 23) Fractures of 21, 22, & 24 showed aggregate pulled apart on tension side of slabs; even small particles of hard gravel.

NEW TYPE OF FIRE-PROOF CONSTRUCTION—FABRICRETE*

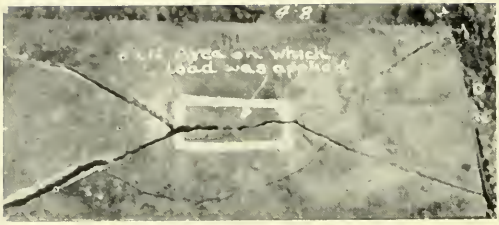
by WALTER T. STEILBERG, Architect and Architectural Engineer

This is the second installment of Mr. Steilberg's article describing a new method of fireproof construction for buildings of light load occupancy. The author is the inventor of the system which he believes has revolutionary possibilities. The reader should not misconstrue the extensive subject matter as advertising propaganda for any of the building materials that may be used in this type of construction. The publishers invited Mr. Steilberg to describe his invention so that the architectural profession and building industry might benefit if the method is found to be all that is claimed for it. The author illustrates his system with a number of practical examples. It therefore should not be considered as in the experimental stage. It has been proved useable for practical building work. But the final answer to the several methods described may still be in the making. Mr. Steilberg is confident that the next decade will witness the complete development of some such system of cellular or channeled monolithic system of construction.—Editor.

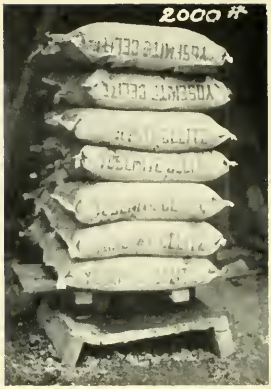
AS the work has proceeded on the five buildings constructed by this system in Los Gatos and in Berkeley, very thorough tests have been made, not only of the plastic material itself in direct compression but also of such structural elements as would be used in the actual buildings. As a standard test, thin slabs, such as would be employed in the walls and floors and partitions, are tested in flexure; and also for watertightness and shrinkage; the many factors and results observed are indicated in the accompanying tabulation. This form of flexure test, although crude in technique, seems to me to indicate more conclusively than a direct compression test the properties which are essential in such thin section "concrete" work. For want of a better measure of the bending strength of unreinforced slabs, I have reverted to the so-called "modulus of rupture"; that is, the ultimate resisting moment divided by the section modulus taken about the center of the depth; some of the values obtained in these thin slab tests compare favorably with those of a good natural sandstone. The roofing gravel used as the "coarse," although carrying several per cent of rather soft pebbles, has given better results, both in strength and workability, than either granite or trap screenings of the same $\frac{3}{8}$" to 3/16" size. It is possible that a better gravel will give even higher strength, since in nearly every instance the cementing paste has been strong enough to pull the small gravel particles apart on the tension side of the slab.

The waterproofing of exposed concrete and stucco is usually presented as a problem of reducing porosity; by an admixture, or by closing the outer pores with a surface coating. But there is a more serious, as well as a more frequent cause of leaks;—cracks due to shrinkage, settlement, or improper provision for load stresses. Porosity has

*Abbreviation for a system of constructing buildings or parts thereof by plastering a fine aggregate concrete (gravel stucco) on properly designed reinforcement, consisting of rods, combined with expanded, woven, or electrically welded steel fabric; thereby forming thin, hollow, or channelled walls, floors and roofs. Primarily intended for buildings of light load occupancy.

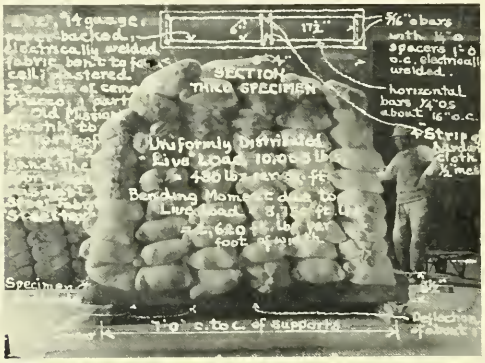


Portion of slab cast for Method E, 1⅜"x24"x4'-8", was bedded on concrete 2"x4" supports at sides of slab. The only reinforcing in the slab was 18-gauge stucco netting. The slab broke under the second application of a 2000 pound concentration on a central 6"x12" area.



CONCENTRATION BEARING CAPACITY OF THIN SLAB

Total bending moment exerted by concentration, 11,000 pounds. Obviously the stucco itself supplied most of the tensile stress. This slab was three months old before it was placed on supports for testing and was therefore free from initial tensile stresses due to shrinkage. Note stress distribution indicated by cracks.



This specimen was made in 1926 as a portion of a typical Fabricrete wall (Method A), the surfaces, web, and edges being plastered while in the vertical position. It was left in this position for fifteen months exposed to weather, so that shrinkage cracks and corrosion might have a chance to develop. It was then trucked to the testing ground, in which process it was slightly damaged. Although designed and constructed as a wall specimen, it was loaded horizontally as a test of its strength in flexure. Note that, although deflected about 1" for three days by the 10,000 pound load, the specimen straightened after the load was removed. The success of this test demonstrated that stucco applied to a wall surface could be used structurally, and that this type of wall could provide ample strength for buildings, several stories high. It also suggested that similar cellular slabs, could with proper engineering design, be used for floors and roofs. Slabs having a clear span of 13' and constructed like the one shown here, have been used in building construction.

FLEXURE TEST OF FABRICRETE WALL SPECIMEN AS A HOLLOW FLOOR SLAB
(Constructed by Method A)

not been a problem in the five Fabricrete houses completed to date; the plastic material shows an absorption when subject to A. S. T. M. test of about 6%; a two-story channelled wall (constructed by Method D), exposed to driving rains for several days, showed no trace of moisture on the inner face of the outer 1" shell (plastered two coats and without any cement wash or other brush coat waterproofing).

Shrinkage is a problem requiring the most careful consideration in using a material as rich in cement as stucco must be in order to be workable,—or perhaps it would be more precise to sav 'plasterable'. It has been well established that concrete will shrink in proportion as the cement content is increased; but the corresponding gain in tensile strength,— the property by which concrete resists shrinkage stresses when restrained,—is usually overlooked in observing this phenomenon. Just what may be the effects of aggregate quality and grading, water-cement ratio, mixing, placing and curing conditions, upon shrinkage resistance, requires further investigation. As every plasterer knows to his sorrow, the checking of stucco is frequently caused by wind,—a factor which is rarely if ever considered in studying volume changes in concrete proper. There is a variety of opinions regarding the effects of the use of ad-mixtures, the surface plastered against, the type of lath or reinforcement, the methods of bonding the two or three coats, the effects of difference in cement content in the two or three coats, the time between coats, and the surface finish. In this connection it may be of interest to note that in several of the 2' x 10' pre-cast slabs, described in Method E, admixtures of several patented waterproofings (aluminum stearate) were used, and in all cases caused serious checking, although reducing the absorption (i.e., the porosity) about 50%.

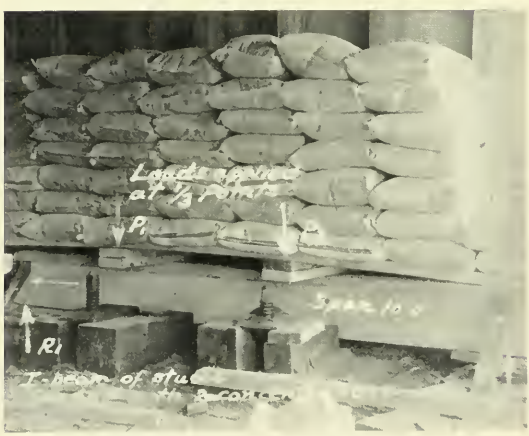
Cement plastering has inherited from lime plastering several habits which are distinctly injurious; it has suffered such abuse from careless or dishonest builders that the very name of "stucco" connotes something flimsy and shoddy. The information published in books, magazines and circulars deals chiefly with the texture and color of stucco and its use as a covering for wood or masonry, — not, as a structural material worthy to "stand on its own." Onlv thorough scientific studies of structural properties, including field as well as laboratory observation, can change the traditions and opinions regarding cement stucco to definte knowledge; only such studies can inspire confidence in place of the prejudices that have grown up from bad practice.

The several dozen slab tests which I have made to date I consider as no more than reconnaissance work; to arrive at definite conclusions, a long series of tests must be made for each of the many variables indicated on the tabulation; — an investigation which must go on for years,—if possible in conjunction with actual building operations. I am about to start a series of tests of the shrinkage *resistance* of restrained slabs, using various mixes, types of reinforcing, methods of placing, curing conditions, etc. These slabs while restrained will also be subjected to bending loads, in order to see how the load-carrying capacity of the material having an initial stress (due to resistance to shrinkage) will compare with the strength of slabs shrunk without restraint. It is my opinion that such tests will be more helpful than the usual quantitative measurements of shrinkage, from which the effects due to restraint may, with certain assumptions, be computed.

All of my work with this system of construction, both in the laboratory and field, has been with stucco, applied by hand. I have, of course, considered the use of the cement gun, but most of the buildings constructed have been in rather inaccessible situations, which made prohibitive the cost of setting up the "Gunite" machinery. It is quite possible that the use of "Gunite" would prove an economy for several of the methods I have described, provided that the work were of sufficient quantity and of very simple form.

A rigid frame, 8′-4″ high and 8′-4″ wide was constructed by plastering the vertical members with a special stucco and pouring the horizontal member with the same material. The horizontal member was 21_8′x8½″, reinforced with 2⅜″ squares with 12-gauge 2″x2″ fabric web steel; the vertical members were 2½″x7½″; reinforced with 2⅜″ rounds tied with fabric. No restraint at footings; specimen 28 days old at test. Photo shows frame carrying 8,200 pounds on two hangers at 1/3 points. Computed stresses at center of span 3,400 pounds in "concrete"; 92,000 pounds in steel. Frame was finally broken down by swinging the load laterally. Micro-meter measurements of tensile steel after concrete had been hammered off, showed reduction in area of only 5%, indicating that much of the tensile stress had been taken by the concrete. Failure probably due to bond failure of vertical steel which was not hooked at ends.

TEST OF FABRICRETE RIGID FRAME



TEST OF FABRICRETE I-BEAM

The purposes of this test were to determine the practicability of constructing a large I-beam or girder by plastering (thus effecting a saving in dead weight), the possibility of the relatively thin web enabling the flanges to act as a resisting couple; and the resistance of such a web to shear stresses.

This girder (a crude ¼ full size "model" of a 40′ girder was 13″ deep by 6″ wide; with 2″ top flange and 1¼″ web and bottom flange. Bottom reinforcement 5¼″ squares; top, 3¾″ squares; web reinforcing 2″x2″, 14-gauge fabric web and flanges plastered with a special stucco. Span, 10′-0″, center to end of supports.

The load was applied, as shown, at the third points of the span; the first cracks appeared under a load of 9,200 pounds, exerting a bending moment of 184,000″ pounds: ultimate failure under load of 10,600 pounds exerting moment of 210,000″ pounds. The web was strong enough, however, to develop a computed stress of 61,000 pounds in bottom steel. The specimen failed as was anticipated by diagonal tension in the web. The girder weighed one-third as much as a rectangular girder of same size; in which the stress in the concrete under the ultimate load would he 1,290 pounds Further study and experiments are necessary before making practical use of this method of constructing long span girders and rigid frames A rigid frame of this type will soon be prepared for test.

The above described tests of structural strength and shrinkage resistance are for the purpose of gaining information regarding the behavior of the plastic material, both plain and reinforced, in its most elementary structural uses,—floor slabs and wall shells. Doubt has been expressed that any such strength as is exhibited by these small specimens could be relied upon in actual building work, particularly in the plastered portions of the structure, the vertical wall shells and webs. My reasons for not sharing these doubts are presented in part in the accompanying reports of tests of full size specimens of a cellular wall, a roof slab under concentrated load, and a rigid frame. These tests, as well as practical experience with five buildings completed and occupied and a sixth now in course of construction, indicate that the plastered material is quite as strong as the poured; specimens broken out of plastered vertical members show closer packing of the large aggregate and about 20% less absorption than specimens from the poured horizontal members. In Method G, horizontal as well as vertical members are "plastered".

The problem of economically provided ample strength for buildings not more than five stories high and with light or medium loads, I regard as practically solved. Which of the seven methods described would be best will depend on the particular problem;—and future experience; which, quite possibly, may demonstrate that there is a better method than any which I have tried. Obviously any building constructed by this system would require engineering design and superintendence. It is, perhaps, not quite so self-evident that architectural design is equally necessary; if a structure is to endure, it is all the more important that it be conveniently arranged and well proportioned. The generally accepted principles of modern, poured reinforced concrete design should for the present be observed;—although it might be well to remember that there is room for improvement in principles which, for example, recognize the tensile strength for concrete in providing for shear and ignore it in providing for moments.

While the studies which I have made thus far have been directed toward a basic improvement of small building construction,—chiefly involving light loads and medium spans, there is a possibility that the general scheme of using stucco structurally might be advantageously employed in long-span girders and rigid frames. My first experiment in this direction is reported herewith.

No fire resistance tests of Fabricrete construction have been made.—other than the very thorough and quite "practical" test of stucco in the Berkeley conflagration of 1923. Preparations are now being made which will compare the fire resistance of the material used in the wall shells with materials of established time rating. Arrangements are also being made for tests by the laboratory of the National Board of Fire Underwriters. Obviously, the resistance cannot be expected to be as high as that of a steel or reinforced concrete skeleton, fireproofed in accordance with standard American practice; it should be equally obvious that this type of construction would offer greater fire resistance than the so-called steel-frame house, having metal lath and hardwall plaster as its only fire protection.

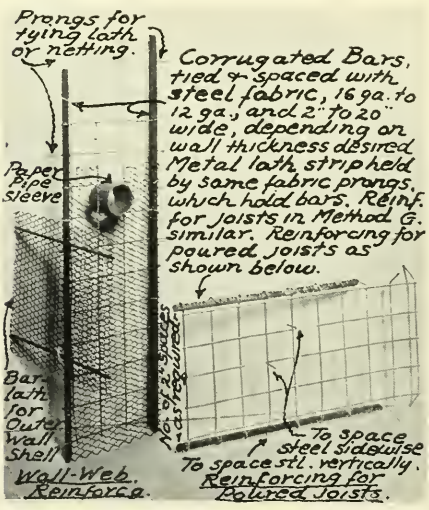
It is generally assumed that the force exerted by an earthquake upon a building is directly proportional to its mass. In this type of construction the "bearing wall" weighs from a third to a fourth as much as the ordinary poured re-inforced concrete wall, and on account of the favorable "distribution of material," it can easily be reinforced to equal the poured wall in resisting lateral forces. The floor systems and the roofs weigh about half as much as the usual concrete construction. Furthermore, a Fabricrete structure, being designed and constructed as an assemblage of rigid frames, is in its very nature, far better adapted to resist lateral forces of all sorts, than is a building without special provision for the transference of stress at the joinings of vertical with horizontal or sloping members.

No tests of thermal conductivity of these walls have been made. Experience with buildings occupied indicates that there is no marked heat loss difference between

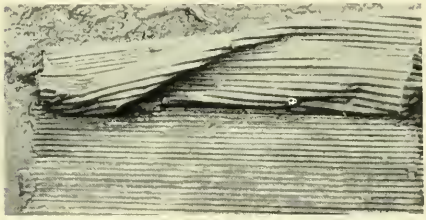
PARTITION CONSTRUCTION

Stucco, netting stretched over $\frac{1}{4}$" squares about 2' on center both ways; plastered with special stucco about $\frac{3}{4}$"; thickened to $1\frac{1}{4}$" by later coats each side. Corrugated paper may be used to form corrugated bonding surfaces between coats.

Curing frames, consisting of two thicknesses of burlap and one thickness of Sisal-kraft paper stretched over wood strip frame, are used to keep Fabricrete walls moist for two weeks. Parapet reinforcing shown above (Method G).


Prongs for tying lath or netting.
Corrugated Bars, tied & spaced with steel fabric, 16 ga. to 12 ga., and 2" to 20" wide, depending on wall thickness desired Metal lath strip held by same fabric prongs, which hold bars. Reinf. for joists in Method G. similar. Reinforcing for poured joists as shown below.
Paper Pipe Sleeve
Bar-lath for Outer Wall Shell
Wall-Web Reinforcg.
To space steel sidewise
To space stl. vertically.
Reinforcing for Poured Joists.

Reinforcing units of Fabricrete joists and wall-webs or studs. For the sake of clarity, the units are shown separated; in practice the joist and wall-web reinforcing are combined to form the reinforcing of rigid frames.



Fabricrete method of absorbing excess mixing water, providing curing protection, and forming a bonding surface for floor finish by means of corrugated paper. The paper, (preferably rag stock) is placed on the surface of the screeded slab; when floor is to be finished, the paper is rolled off, leaving a corrugated bonding surface Experiments indicate that corrugated paper may also be used to pour against, to plaster against, and to press into the face of stucco to form superior bonding surfaces, or a ribbed finish

MISCELLANEOUS DETAILS OF FABRICRETE CONSTRUCTION

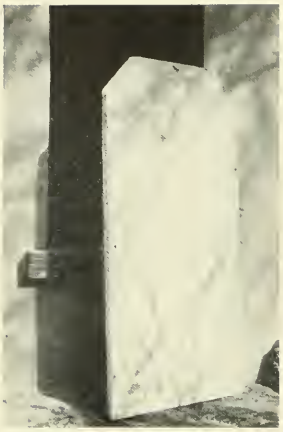
Fabricrete and the best frame construction, with stucco exterior finish; in the one case there is less loss by filtration; in the other less loss by conduction. Horizontal divisions in these spaces or the filling of them with an insulating material would, of course, greatly increase their value. If the roof construction indicated in Method D has half the insulating value that the manufacturers of fibre-board claim it should have, it will be twice as good as perfect.

The stopping of the passage of sound has not been a problem in this type of construction; even the one-inch partitions prove quite effective in confining noises. But the other phase of the acoustic problem, reverberation, has presented difficulties. I have built a number of rooms with the ceiling formed directly by the Fabricrete channeled concrete floors of the story above; acoustically considered, they are about as habitable as rain-barrels. Nearly all of the disagreeable echo seems to come from the ceiling and is practically eliminated (even when the rooms are bare of furnishings, floor coverings, or drapes) by using fiberboard ceiling panels, built-in as in Method D, or sprung into place as in Method G. I do not refer to the unsightly and expensive drilled acoustic board; but to the standard ½" board, made of wood or sugarcane fiber, costing 4c to 5c per square foot, and obtainable in cream, putty color and several shades of brown. If the absorption of sound is an important consideration, the color selected should be as near as possible to that which is desired for the finish of the room; and in no case a darker color; the use of a heavy-bodied paint needed to obtain a lighter color or different texture will entirely destroy the sound-absorbing property of the fiberboard. Should a more resonant quality be desired, wood veneer panels can be used instead of the fiberboard. The probability of sound reflection by large simple surfaces can be greatly reduced at little expense by using arched, V-ed, or polygonal panels. The use of a sound absorbing finish coat of plaster on the walls might be of further assistance in removing echoes, and experiments will be made with such material. However, most of the acoustic plasters "dust" badly and are so rough to the touch, so easily marred and soiled, that they are quite impractical to use less than six feet from the floor. The finish which I have developed for Fabricrete interior wall surfaces has "texture," but is smooth to the hand; it neither sheds nor catches dust; and is as resistant to abrasion as a hard, natural limestone. These are qualities which, in many rooms, are of greater value than the capacity to absorb sound.

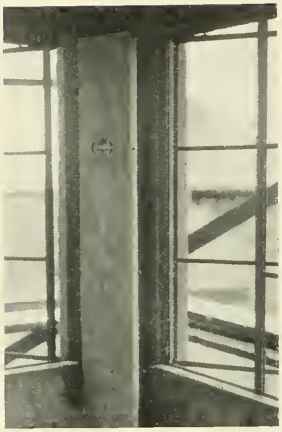
Considerable savings in space and building cost can be effected, with this type of construction, by using 1" partitions and parapets (thickened to about 2" with stucco at door openings); and by recessing bookcases and other cabinets in the wall hollows. The difficulty of running plumbing pipes, heating ducts, and electric conduits in the closed cells, used in Methods A, B, and C, led to the development of Methods D, E, F, and G, in which the wall channels are not closed over by the interior stucco shell until after the installation of all of the services. These open channels, usually 6" deep, free from cross-bridging and not requiring fire-proofing or stopping, provide excellent runways for pipes of all sorts. The plumbing, electrical and heating systems must, of course, be carefully laid out in advance, so that openings can be provided wherever necessary for the passage of pipes through the webs from one channel to another.

Heretofore one of the great difficulties with any type of masonry construction has been the installation of windows and doors and other details of finish — a difficulty which is largely overcome with Fabricrete construction.

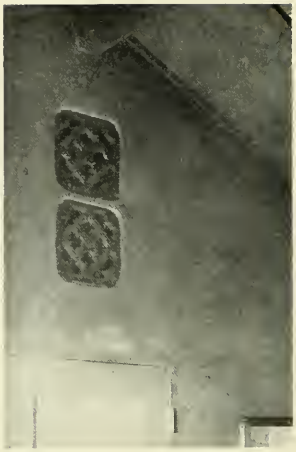
In concrete or hollow tile walls, reglets or nailing blocks are provided for the anchoring of a wood frame, to which the hinges are attached, to which the door is eventually hung after the edges of the wood frame are cased and the stops have been adjusted. In Fabricrete construction the butts are set in a "templet" and bent nails, instead of screws, are plastered in with the first coat of stucco; which also forms the rebate; there being no frame to



Fabricrete door to store room, 2'-0"x3'-6"x $\frac{3}{4}$". Furnace room doors 3'x7' have been made in the same way, with a special stucco properly reinforced.



Steel sash with plastered reveals and tile stools. Corner cupboard in wall-hollow with pivoted Fabricrete door.

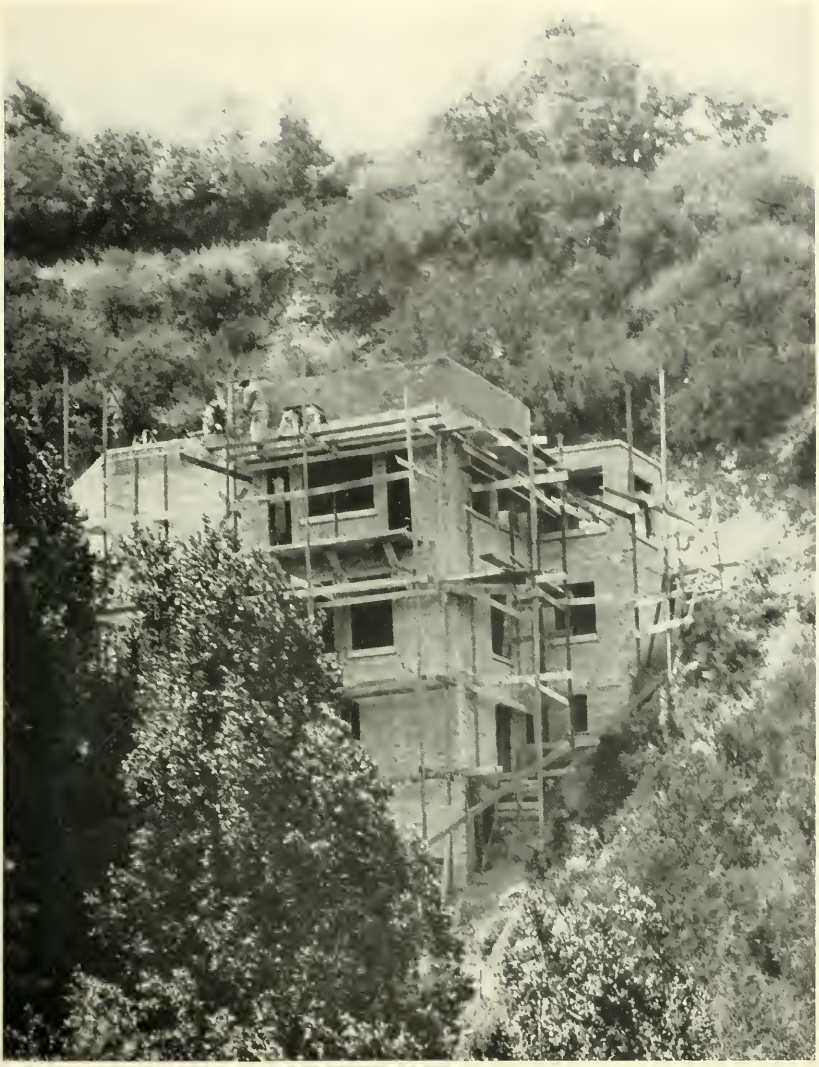


Door in rebate formed in stucco; hinge nails set in stucco. No frame or trim. Chinese tile as heat registers. Ceiling panels fibre board with concrete rafters and girders

Spiral stair to roof terrace, treads, risers and rails made of stucco The terrace parapet also of stucco, is about 1$\frac{1}{4}$" thick, 4' high and 8' long, reinforced with netting and $\frac{3}{8}$" rods. Tests have proven that it has ample strength.

Detail of living room. Ceiling panels of fibre-board, in V form to improve acoustics. Rafters and girders of concrete (Method C). Book cases recessed in wall-hollows. Leaded sash plastered in without frame. Pivoted Fabricrete door with perforated tile as handle. General illumination of room is through ceiling panels consisting of stucco grilles glazed with flat Phillipine shell.

MISCELLANEOUS DETAILS OF FABRICRETE FINISH



"VILLA MARENGO," LOS GATOS, CALIFORNIA
UNDER CONSTRUCTION, SEPTEMBER, 1929

Walls, partitions and parapets constructed entirely by Fabricrete Method A; floor systems, beam and slab. Although exposed to driving southeast storms, these three-story walls have shown no trace of leakage.

COTTAGE AT 4 MOSSWOOD LANE, BERKELEY, CALIFORNIA
NEARING COMPLETION, FEBRUARY, 1931

Wall constructed by Fabricrete Method D; the same channel forms being used for the floor system, consisting of 2″ (finished slab) and 2″ concrete joists. Roof constructed by Method C with baghese fibre board boxes. Wall webs coincide with floor joists and rafters to form a series of light rigid frames (smaller in form to ship construction). Tile roof and sills; steel sash.

suffer distortion by shrinkage or swelling, the installation of the door itself requires less labor in fitting. Steel window frames can be attached to the fabric and rods around the openings and plastered in as the walls are built, instead of by the usual reglet or sub-frame method of installation. The window openings can be simply but effectively finished with stucco reveals, both inside and out, and with tiled sills and glazed tile stools. An unusual feature of the finish of these houses is the Fabricrete door, consisting of a slab of stucco of a special mixture, properly reinforced with fabric and bars, and from ¾" to 1½" in thickness, with or without a fiber-board core, depending upon the size and purpose; excellent for furnace rooms, and for exposed situations; the cost is from 20c to 30c per square foot.

The buildings constructed thus far have been built with small crews and with stock materials, cut to size by hand at the site. It is probable that machine cutting of the fabric and shop bending and assembling of the reinforcing units would effect savings of both time and cost of construction. Thus far there has been little effort to standardize because I have felt that it was more important to try as many different ways of solving the problem as experience on the job, as well as organization, could suggest. My effort has rather been to devise a method which would give to the architect and to the engineer the greatest possible freedom in the selection of wall thicknesses, rigid frame spacings, floor system depths, story heights, interior floor, wall and ceiling finishes and door and window sizes. Now that this object is in a fair way to being accomplished, attention may be turned to the standardization of certain small elements or units.

NATURAL BACKGROUND GIVES CALIFORNIA CITIES PERSONALITY

[Concluded from Page 80]

"Santa Barbara is another instance where co-operation of minds and efforts toward preserving the early Spanish style of architecture already possessed by the city, is giving beauty and individuality to a community that seemed but a few years ago destined to be just another ordinary city.

"A third example is Beverly Hills. Here a splendid plan was laid down with a fine tree program adopted and followed out. Unfortunately there was no control of architectural styles, and the result, as far as the general character of the homes is concerned, is most fortunate. However, nature has been very kind to this community and, with tree and vine, has hidden many a sin.

"In the present day it is the height of foolishness, both from the esthetic and business standpoint, to build a new community, or make additions to any city or town, without first adopting a well thought-out plan, enacting zoning laws and acquiring the services of a competent architectural jury to advise and control the design of the buildings.

"The establishment of set-back lines and fixing a height limit for buildings are additional measures, the value of which is well known. Could telephone and power lines be eliminated from our streets, it would do more toward regaining and conserving the character of our communities than anything else. Almost of equal importance would be the elimination of sign-boards."

While an occasional city or region may be picturesque because of unusual topography or a striking natural landscape environment, the average city must acquire its individuality and charm by developing streets, trees, parks, parkways, and recreation areas, as part of a well ordered city plan, according to Mr. Hall, a landscape architect.

"Regions and cities that have emphasized these requirements to the extent of having a well designed system of parks and parkways, and comprehensive city tree planting," he says, "have gone far in creating individuality, character and charm which will last and grow with the years."

The ARCHITECT'S VIEWPOINT

¶*The Clinic Idea for Architects*
¶*Frank Lloyd Wright Stimulates Thought*
¶*Educating the Architectural Student*

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A SPEAKER at a meeting of bakers recently held in Portland, said regarding competition in his industry, "We need not fear the competition of each other. It is the competition of the housewife, who still does her own baking, which concerns us." It may be a far cry from baker to architect but perhaps the architect, like the baker, should be concerned with the competition of the housewife. At any rate the architect most certainly should not fear the competition of his fellow practitioners. When architects handle only about ten per cent of all the buildings built, the crushing competition lies without the profession, not within.

Although this is the situation which has prevailed in the architectural profession for decades, there still exists, with some of the boys, quite a noticeable feeling of jealousy toward fellow architects. The continuance of this attitude is, and will be, so long as it prevails, one of the most serious impediments to progress that the profession has.

Why is it that we architects have not held architectural clinics for the general improvement of the profession? A meeting at regular intervals should be held, where all are gathered for the interchange of ideas and experience. As is now the situation, each architect must individually discover, often to the client's misfortune, what can properly be done in building and what cannot. Must each young architect make the same mistakes, as a part of his education? The mistakes of an individual do not affect him alone, not by any means. They reflect upon the whole profession.

Probably the only reason this "clinic idea" has not been in force for many years is that each practitioner wants to retain his trade secrets, as we might term them. Then, although he speaks to Architect Jones, when he sees him on the street, or at a meeting, he does so rather mechanically, and certainly with no idea of discussing frankly, methods of construction. All this must change, and change radically, if we are to make real progress.

The possibilities of this "clinic idea" are great and many. There can be discussion with manufacturers' representatives, talks by expert builders and craftsmen, round table conversation by the architects themselves on any problem of building. Young architects can then hear about damp proofing, dry rot, shrinkage, expansion joints, lien laws, and countless other things that are not stressed in school. Older architects can discuss new building materials, office procedure, economic construction, modern design—but why enumerate?

* * *

SEVERAL Portland architects, including the writer, motored to the University of Oregon, at Eugene, to hear Frank Lloyd Wright's lecture, and to see the exhibit of his work. It was indeed an enjoyable experience to see and listen to an archi-

tect who is so much discussed now throughout the world. Regardless of whether or not we understand fully the personal quality of Mr. Wright's design, we must have great admiration for his earnest plea for common sense and his appeal for an architecture not bound up with style tags, sham, and worn out forms. It is no wonder Mr. Wright is recognized as such an important factor in the present day world of architecture. He sets his listeners to thinking—thinking seriously, fundamentally, practically, and scientifically—a state of mind that is apparently new to many.

The house reference number of a prominent magazine just arrived, displays many examples of newly completed residences by our "best architects". Just one house out of the number with a thrill—and incidentally, that was by a California architect. The rest were the usual contrived picturesque variety, busy little cottages with a multiplicity of dormers, poorly planned and without feeling for straightforward construction. They strive so hard to be French provincial, very early American, and more English than the Cotswolds.

If the thoughts that Frank Lloyd Wright, in this country, and Professor W. R. Lethaby, in England, have preached for thirty years can cause people to think in a more common sense way—these men will have accomplished something worth while.

* * *

WE architects worry and lament the rapid disappearance of the handi-crafts. This disappearance will be complete if we continue to patronize the work of the past. There are in Portland, a few excellent wood carvers and cabinet makers who are given so little to do that they can barely keep going. At the same moment, people are searching out old junk shops for a shaky spool bed, or a late General Grant chair which only needs glueing up, and one new arm. How can we maintain craftsmen, produce a present day art and give it nourishment, with this state of affairs existing?

* * *

THE last meeting of the Oregon Chapter, American Institute of Architects, was a very interesting one. As guests were Roland E. Borhek, president of the Washington State Chapter, Dean Hunt Bosworth, of Cornell, and Roy Childs Jones, of Minnesota. Dean Bosworth discussed with the members, the question of the education of the architectural student. He agreed that some system would have to be devised, before proper progress could be made, to teach the student more about building —scientific, practical, economical building; in other words, architecture. The need is keenly felt for students to know with thoroughness, the crafts as they exist, the uses and abuses of materials, and the design possibilities of these fundamentals. How best to give this training to a student is a difficult problem. It is said, however, that a sort of apprentice system for training students on actual building projects is being carried on successfully at the University of Cincinnati.

* * *

One of the local architects, who comes from Norway, made the statement the other day that in his homeland, the architect is respected more highly by the community at large than is the case here in the United States. He said that in practically all cases where matters pertaining to city planning, public building, parks, housing, etc., were under discussion, the architects were prominently represented. It is the rare exception, in this country, that architects are consulted on these problems.

It is one of the important duties of societies and chapters of architects to see to it that we are properly recognized by planning commissions, housing boards, school boards, and art commissions. With so many things of so important and serious bearing on modern architecture to consider, it does not leave the architect much time to ponder on the hand adzing of timbers, or the relation of Mayan ornament to modern life, but, perhaps that is as it should be. HAROLD W. DOTY, A. I. A.

PROPOSED LIEN LAW CHANGES IN STATE OF CALIFORNIA

PENDING legislation in California proposing amendments to the mechanics' lien laws and particularly Assembly Bill 1104, which would give a lien claim priority over a mortgage securing a building loan unless a labor and material bond was furnished either by the contractor or owner and placed on record, was discussed at a joint meeting of the building and engineering divisions of Southern California Chapter, Associated General Contractors of America, at the Jonathan Club, Los Angeles, February 19. Glen Behymer, attorney for the Building Material Dealers' Credit Association of Los Angeles, author of the bill, was present by invitation, to explain its provisions.

Assembly Bill 1104 is a redraft of Section 1186 of the mechanics' lien law. Its primary object, Mr. Behmyer stated, was to protect laborers and materialmen against a shortage of funds that usually develops when excessive deductions are made from building loans prior to the starting of construction and is founded on the theory that economically unsound building projects should be prevented as a detriment to the entire community.

As it now stands, Section 1186 gives priority to mortgages filed for record before delivery of materials has commenced or work has been started. Under the proposed amendment this priority would only obtain, Mr. Behmyer said, when a 50 per cent labor and material bond, as provided for in Section 1183, was given and recorded by the contractor selected to do the work or, by the owner, as proposed in an amendment to Section 1186, if no general contract was let. In the former case the bond would be based upon the contract price and in the latter, on the face principal amount of the note or notes given to secure the mortgage.

How the Bill Would Operate

It was stated by Mr. Behymer that if bond was furnished as proposed in the amendment, the mortgage would have priority over liens, whether it was filed before or after work was started. It would not be necessary for either the title company or the money lender to examine the premises to establish priority of a mortgage. That would be determined simply by ascertaining if the bond required had been placed on record. Bond may be furnished either by a licensed surety company or by individual surety companies. It is provided in the amendment that if a surety company bond is given it would be conclusively presumed that the bond is good and sufficient.

Mr. Behymer said it was unfortunate that some money lenders were not concerned with the payment of bills so much as with construction reaching a stage where they had ample security for their loans. It was only fair, however, since they dictate the terms upon which the loan is made, that they should, in return for the protection afforded them, see to it that the bills of the laborers and materialmen who furnish value to the owner and security for his own loan, are also protected.

Protection for Title Companies

Answering objections raised by title companies and money lenders to the proposed amendment, Mr. Behymer said they would have actual knowledge of all the facts through escrow pending with the title company and would be fully aware whether the loan was secured by a mortgage or trust deed. The title company could, he suggested, dispel any doubt as to whether the mortgage was given to secure money already advanced or future advances, require as a condition of writing the title certificate, that the loan pass through its hands.

Other phases of the proposed legislation were discussed by Mr. Behymer and he said he did not believe there were any points in controversy which could not be reconciled as the proponents of Assembly Bill 1104 were not committed to any definite phraseology so long as the principle contained in it was preserved. He said he had assurance from surety company representatives that the legislation would be agreeable to them. Referring to the system of joint control as now exercised, he said the surety bond men had asserted they would co-operate in such a way as to insure that the intent of the proposed amendment would be fully realized. Because of the direct liability of such bonds, Mr. Behymer said, the surety com-

panies would be interested in the payment of the bills as well as the completion of the building, and the joint control arrangement would be such that diversion of funds to purposes foreign to the building would only be permitted to an extent that would be reasonably possible.

Other Bills Considered

Mr. Behymer referred briefly to Senate Bill 376, drafted by J. W. Morin of Pasadena, and endorsed by the State Builders' Exchange of California, in which publicity is sought concerning the terms of building loans. This would be accomplished through filing by the owner, 10 days before starting of work of a "Notice of Intention to Build," in which the terms of any mortgages or encumbrances existing at that time on the property concerned, would be fully set forth.

Mention was also made by Mr. Behymer of Assembly Bill 996, which proposed to amend Section 1184, to provide for the filing of a stop notice by the laborer, subcontractor or materialman when he reaches the conclusion that his original extension of credit on a job was unsound. This is known as an equitable garnishment of loan fund. Where a labor and material bond has been given on a job the money lender is not compelled by this amendment to withhold funds out of a building loan.

The text of Assembly Bill 1104 is given herewith:

Text of Assembly Bill 1104

An Act to amend Section 1186 of the Code of Civil Procedure, relating to liens of mechanics and materialmen.

Section 1. Section 1186 of the Code of Civil Procedure is hereby amended to read as follows:

1186. The liens provided for in this chapter are preferred to any lien, mortgage, deed of trust, or other encumbrance, upon the premises and improvements to which the liens provided for in this chapter attach, which may have attached subsequent to the time when the building, improvement or structure or work of improvement in connection with which the lien claimant has done his work or * * * furnished his material was commenced; also, to any lien, mortgage, deed of trust, or other encumbrance of which the lien holder had no notice and which was unrecorded at the time the building, improvement, structure or work of improvement in connection with which the lien claimant has done his work or furnished his material was commenced or * * * provided, however, that where the entire consideration for any mortgage, deed of trust, or other encumbrance has not passed prior to the commencement of such work of improvement and where the entire amount secured by any mortgage, deed of trust or other encumbrance has not been actually advanced and paid, or the entire consideration actually passed and delivered, to the maker of the note or other obligation secured by such mortgage, deed or trust, or other encumbrance before or at the time of the execution thereof, but is to be thereafter advanced or passed, such mortgage, deed of trust, or other encumbrance shall not be entitled to the preference herein given as to any advances made or consideration passing subsequent to the execution of such mortgage, deed of trust, or other encumbrance, unless the owner or holder of any such mortgage, deed of trust, or other encumbrance shall procure, or cause to be procured, and to be recorded either concurrently with the encumbrance to which it refers or prior to the recordation of such encumbrance, a bond of the mortgagor or trustor as principal with good and sufficient sureties in an amount not less than 50 per cent of the principal amount of such mortgage, deed of trust, or other encumbrance conditioned for the payment in full of the claims of all persons performing labor upon or furnishing material to be used in, or furnishing appliances, teams or power contributing to such work or improvement upon the property therein described, and shall cause to be incorporated in said bond a provision making it inure to the benefit of all persons who perform labor upon, or furnish materials to be used in, or furnish appliances, teams or power contributing to such work or improvement, so as to give such persons a right to recover upon said bond in any suits brought to foreclose liens provided for in this chapter, or in a separate suit brought on said bond. Further provided, however, that in the event a statutory labor and material bond furnished under Section 1183 of this code and complying with the provisions of the last mentioned section has been procured and filed in the office of the county recorder, as in said section provided, concurrently with the building contract, then such bond given under said last mentioned section shall be deemed the bond required under the provisions of this section and shall be a suffi-

cient compliance with the requirements of procuring and recording the bond hereinabove provided for. Also further provided that for the purpose of this section a bond furnished by a corporate surety licensed to do business in the State of California, shall be conclusively presumed to be a bond with good and sufficient sureties. No change or alteration, or modification in the work or scheme of improvement referred to in said bond nor in the plans, specifications or agreements pertaining to the structure or improvement, or agreements pertaining to the furnishing of labor or materials therein, or change in the terms of payment, or extension of the time thereof, nor rescission of said bond, nor conditions precedent, nor conditions subsequent contained therein, attempting to limit the right of recovery under said bond shall release or exonerate any surety or sureties on said bond. All bonds given pursuant to the provisions of this chapter shall be construed most strongly against the surety and in favor of all persons for whose benefit such bond is given, and under no circumstances shall a surety be in any wise released from liability to such laborers or materialmen, or persons furnishing appliances, teams or power by reason of any breach of contract between the encumbrancer and the encumbrance holder or owner, but the sole condition of recovery on the part of such persons furnishing labor or materials or appliances, teams or power, as aforesaid, shall be that said labor or material has been used or consumed in, or said appliances, teams or power have contributed to the work or improvement to which said bond refers, and that the person for whose benefit said bond has so been made to inure has not been paid some part or all of the sums due him for the same. The bond provided for in this section shall be filed and recorded in the office of the county recorder of the county where the real property is situated.

COOL DRINKING WATER

Editor, The Architect and Engineer,
San Francisco, California.

Architects are giving more and more attention to modern methods of supplying refrigerated drinking water on a large scale to tenants and guests of large office buildings, hotels, etc.

There are four general systems in use, each of which is adaptable to any type of building or structure or to any locality. They are the refrigerated circulating system, the individual system, the multiple system and the dead end system.

CONVENTIONS, COMPETITIONS, ETC.

April 18	Closing date for applications for Princeton Prizes in Architecture. Address the Director, School of Architecture, Princeton University, Princeton, N. J.
April 18-25	Fourth Biennial Architectural and Allied Arts Exposition, Grand Central Palace, New York City.
May	Exhibition of British Contemporary Art, London (Imperial Institute).
May 4-Aug. 8	Art Exhibition, Royal Academy, London (Burlington House).
May-August	Art Exhibition, Royal Scottish Academy, Edinburgh.
June 1-5	International Town Planning and Housing Federation Congress, Berlin.
July 10-Aug. 30	Vacation-study tour of housing, arranged and directed by The Garden Cities and Town Planning Association, London, in cooperation with the City Affairs Committee, 112 East 19th Street, New York City. For information, address Helen Alfred, Housing Chairman.
October 1	Closing date for entries for Lincoln Arc Welding Prize competition. Address inquiries to the Lincoln Electric Company, Cleveland, Ohio.
November	Exposition of Indian Tribal Arts, Grand Central Art Galleries.
October	Annual Convention State Association of California Architects at Riverside.

Perhaps the most novel of the four is the refrigerated circulating system, a brief description of which follows:

The system consists of a refrigerant compressor identical in type to those used in cold storage practice, meat markets and grocery stores—very simple, compact, semi-portable and readily installed, and occupying small space; a cooling tank or chamber for the water; a circulating pump; the necessary piping for forming the distributing "loops" or circuits; fountains or "bubblers" and a few control auxiliaries such as balance tanks, float tanks, etc.

In multiple story buildings the cooling tank, compressor and circulating pump, together with any sterilizing equipment, are usually located in the basement with the distributing pipe rising through the building overhead and the drinking fountain attached at any desired point. The water is cooled to any degree and in any reasonable quantity, up to several gallons per hour. All that is necessary for a person to do, wishing a drink, is to press an automatic closing valve at the fountain which releases a liberal jet of properly cooled, pure water. The system is the last word in economy, sanitation and convenience. Any of the four systems may be made up of local equipment common to the plumbing and refrigerating trades or there are complete cooling units designed for specific needs.

L. M. JORDAN.

WITH *the* ARCHITECTS

H. ROY KELLEY'S WORK

The work of H. Roy Kelley, A. I. A., was featured in the exhibition held the last two weeks in March at the Architects Building Material Exhibit, Los Angeles. This exhibit proved of unusual interest because of the fact that Mr. Kelley has been awarded Honorable Mention for a small home submitted in the recent competition conducted by the Better Homes in America. Photographs and floor plans of this house which was built in Palos Verdes, as well as many others which have won prizes and awards in national competitions, were included in the exhibit. Mr. Kelley also displayed some interesting renderings in color by Harrison Clarke and Robert Lockwood.

Selections of some of Mr. Kelley's work will be published in THE ARCHITECT AND ENGINEER Annual House Number in May.

SAN FRANCISCO SKY SCRAPER

The Ninth and Market Street Company, Inc., are the promotors of a $10,000,000 hotel, office building and theater project for the southeast corner of Ninth and Market Streets, San Francisco. The theater will have a seating capacity of 5000 and the hotel will have 825 rooms. There will also be a fourteen hundred-car garage. Douglas Dacre Stone, Howden Building, Oakland, has prepared the preliminary plans.

DON M. CLIPPINGER ASSOCIATE

Credit for designing the new Washington Athletic Club Building at Seattle, illustrated in THE ARCHITECT AND ENGINEER in the March issue, should go not only to Sherwood D. Ford, architect, 631 Lyon Building, Seattle, but to Mr. Ford's associate, Don M. Clippinger. The omission of Mr. Clippinger's name was due to a regrettable oversight.

NEVADA SCHOOL BUILDING

George A. Ferris & Son of Reno, Nevada, are preparing plans for a $70,000 grammar school building at Wells, Nevada.

APPOINTED SCHOOL ARCHITECTS

Wolfe and Higgins of San Jose have been appointed architects of the proposed new St. Helena grammar school which is to replace the old school building which has been condemned. The structure will cost $80,000. The same architects have awarded a contract for a brick office building in San Jose for the Gladding Manufacturing Company. They have also awarded a contract for a two-story frame and stucco apartment building in San Jose for Della Maggioni.

STOCKTON FEDERAL BUILDING

Howard G. Bissell, architect of Stockton, has been selected by the U. S. Treasury Department as consulting and resident architect of the proposed new Stockton postoffice building for which plans are to be prepared by Bliss & Fairweather of San Francisco. This action was taken following the protests of Stockton interests to the U. S. Treasury Department. The Stockton people urged that a local architect be considered for the appointment.

TWENTY-TWO STORY BUILDING

The H. H. Winner Company, 580 Market Street, San Francisco, has prepared preliminary plans for a twenty-two story Class A office building which the Harbor Investment Company is promoting for the southeast corner of Market and Stewart Streets, San Francisco. The plans call for twenty stores and one hundred and twenty offices and garage.

HOSPITAL WARD BUILDING

The Constructing Quartermaster at Fort Mason will receive bids up to April 30 for constructing a reinforced concrete ward building at Letterman General Hospital, estimated to cost $115,000.

OAKLAND RESIDENCE

Plans have been completed by Guy L. Brown, architect in the American Building, Oakland, for a $10,000 Spanish house on the Contra Costa Road, Oakland, for James F. Mather.

NO CERTIFICATE; NO FEE

J. W. Olver of the Eureka Mill and Lumber Company, San Francisco, recently lost his suit in Judge Wise's court for $500 architectural fee in connection with plans for a $60,000 reinforced concrete apartment and store building in East Oakland, when a non-suit was granted based on Olver's failure to comply with the Architects State License Law. The action, which was brought by the American Credit Service, was contended by the State Board of Architectural Examiners.

Olver was cited before Assistant District Attorney Perkins and warned to discontinue offering architectural service. The courts have repeatedly held that claims for architectural services can not be collected when filed by uncertified persons.

OUR ERROR

THE ARCHITECT AND ENGINEER.
San Francisco.

Will you be kind enough to make a correction of a news item which appeared in your March, 1931, number, which states that A. W. Story is the architect for the W. E. Cockcroft and J. E. Porter residences in Watsonville.

We are the architects for these two residences and have employed Mr. Story to supervise the construction of them for us.

Yours very truly,
MARSTON & MAYBURY.
By Edgar W. Maybury.

OAKLAND POST OFFICE BUILDING

The Treasury Department, Washington, D. C., is calling for bids to be opened May 5 for the general construction of a post office and custom house building at Thirteenth and Jackson Streets, Oakland, at an estimated cost of $1,500,000. The excavating of this building is practically completed. The superstructure will be of steel, concrete, stone and terra cotta.

UNIVERSITY TRACK BOWL

Plans are being completed by Warren C. Perry, 260 California Street, San Francisco, for a track stadium bowl to be built on the lot bounded by Bancroft, Oxford and Fulton Streets, Berkeley, for the University of California. The bowl will have a seating capacity of 21,000, and will cost $200,000. The structural engineer is Thomas F. Chace, 210 Post Street, San Francisco.

SAN JOSE ARCHITECTS BUSY

The office of Binder and Curtis, San Jose, is busy on plans for various projects, including remodeling the old Hale Building at Second and San Fernando Streets, which has been leased by the S. & W. Grand Stores; new county jail; alterations to stores on South First Street; a residence in Atherton for H. C. Kok; and a residence near Los Gatos for C. Wesley Toy.

APARTMENT BUILDING

Powers & Ahnden, architects of San Francisco, have completed plans for a two-story apartment building to be built on the southwest corner of Revere and Keith Streets, San Francisco, for C. Faggioni. The same architects are preparing working drawings for a gymnasium building and wards at the Sonoma State Hospital, Eldredge, estimated to cost $90,000.

CHURCH CONTRACT AWARDED

Will D. Shea, architect, of San Francisco, has awarded the contract for the first unit of St. Anne's Parish church at Fourteenth Avenue and Irving Streets, San Francisco, for approximately $187,000. Other contracts to be let will bring the total cost of the edifice to nearly $500,000. The structural engineer is W. Adrian.

THEATER PROJECT

The United Artists Corporation is having plans prepared by its architects, Walker & Eisen, Western Pacific Building, Los Angeles, for various theater projects in the state, including a new playhouse at Richmond, one at Palo Alto, alterations to one in San Jose and alterations to one in San Francisco.

STOCKTON THEATER

Working drawings are being completed by Bliss and Fairweather of San Francisco for a Class A theater at Stockton for the National Theater Syndicate. T. Ronneberg is the structural engineer. The same firm of architects are busy on plans for the proposed new post office building in Stockton.

PIEDMONT RESIDENCE

Plans have been completed and bids taken for a ten-room residence in Piedmont for Gerald B. Trayner. The architects are Farr and Ward, 68 Post Street, San Francisco. Exterior will be brick veneer.

PERSONALS

FREDERICK S. HARRISON, architect, who has been maintaining offices in the Bank of America Building at Eighth and J Streets, Sacramento, has just moved to larger quarters in the Frank P. Williams Building at the southeast corner of Tenth and J Streets, in the same city.

JOSEPH H. WOHLEB, A. I. A., recently of Olympia, F. C. Stanton, architect and O. G. Murray, consulting engineer, announce the opening of offices for the general practice of architecture in the Herald Building, Bellingham, Washington. They will be pleased to receive literature and building material samples from the trade.

ALFRED P. FISHER, consulting engineer, and George de Colmesnil, architect, have removed their offices to 1312 Hunter-Dulin Building, San Francisco.

VICTOR N. J. JONES, of McClelland, Pinneh and Jones, Republic Building, Seattle, has returned to the Queen City after spending four months in Southern California, mostly in Los Angeles, where he supervised the work on three projects handled by his firm.

J. E. TOURTELOTTE, architect, of Portland, sailed from San Francisco late in February, bound for the Orient, by way of Honolulu. The trip will last four months. Mr. Tourtelotte who is senior partner in the architectural firm of Tourtelotte and Hummel, is accompanied by Mrs. Tourtelotte.

SCOTT QUINTON, architect, announces the removal of his office to the Edison Building, Alhambra.

EVERETT O. NORD, a former student of landscaping at the University of Idaho, has returned to Spokane after an absence of eight years and has opened an office as a landscape architect.

P. A. DRAGON and C. R. SCHMIDTS, formerly with W. H. Weeks, architect, 525 Market Street, San Francisco, announce the opening of temporary quarters at 222 Kearny Street, for the practice of architecture.

BOY SCOUTS BUILDING

Plans have been prepared by Charles S. McKenzie, architect, of San Jose, for a Boy Scouts' club building in the Santa Cruz Mountains. The San Jose Rotary club are donating the structure.

S. HEIMAN BUSY

S. Heiman, architect, of San Francisco, besides completing plans for the Health Center building in the San Francisco Civic Center, has been commissioned to prepare plans for an open-air market in Santa Rosa to cost $20,000. There will be a gasoline station and parking space in conjunction.

PITTSBURG CHURCH

Arnold Constable, architect, of San Francisco, has completed plans for the Church of Peter the Martyr at Pittsburg, California, and a contract has been awarded to the firm of Larsen & Larsen, San Francisco, amounting to $55,500.

THIRTEEN-STORY APARTMENTS

The General Investment Company will sponsor a thirteen-story Class A apartment building on Wilshire Boulevard, Los Angeles, from plans by Gene Verge, 803 Beaux Arts Building, Los Angeles.

PREVENTORIUM BUILDING

Plans have been completed and are in the hands of the City Architect of San Francisco, for an addition to the San Francisco Tuberculosis Preventorium. Henry H. Meyer is the architect.

$45,000 CHRISTIAN CHURCH

Construction will start soon on the Westside Christian church, Bush Street at Divisadero, San Francisco, from plans by Bertz, Winter & Maury, architects, at an estimated cost of $45,000.

LONG BEACH HOTEL

Joseph H. Roberts, architect, of Long Beach, is completing plans for an eighteen-story Class A apartment hotel on Ocean Avenue, Long Beach. There will be eighty-three apartments.

WOODSIDE RESIDENCE

J. K. Ballantine, 137 Harlan Place, San Francisco, has completed plans for a $16,000 residence in Woodside for the George W. Williams Company at Burlingame.

SCHOOL AND RESIDENCE WORK

Norman R. Coulter is completing plans for a one-story stucco school building at Sulphur Banks, Lake County, and for a $9000 residence in the Marina District, San Francisco.

PLAZA COMPETITION

A competition is being sponsored by Cyrus McCormick Jr., for the best idea for an architectural treatment of the Plaza of Santa Fe in Santa Fe, New Mexico.

The Plaza, or public square, is the civic center and historical heart of the city; it is where the Santa Fe trail ended. The contest seeks to perpetuate in architectural form the spirit, traditions, history, romance and beauty of old Santa Fe.

Among the quaint architectural buildings on the Plaza are the Palace of the Governors, where lived the governor of New Mexico under Spanish and territorial days, including Lew Wallace, the writer; the La Fonda Hotel, which incorporates the adobe type of architecture, and the State Art Museum. Any proposed plan of treating the Plaza must harmonize with these buildings.

No exhibit will be eligible for a prize which is not in accord with Santa Fe architectural traditions, and none will be considered which includes tile roofs, exterior arches, "jazz humps", fancy plaster, useless adornment, or nondescript style.

The contest closes May 1. First prize is $400 and second prize is $300.

COMPETITION BROCHURE

Second Lincoln Arc Welding Prize Competition: Lincoln Electric Co., P. O. Box 683, Cleveland, Ohio.

The brochure, setting forth all the details of this interesting competition in which any person or group of persons may compete, with the exception of employees of the Lincoln Electric Company, may be had by addressing the above named company. Prizes aggregating $17,500 are being offered as follows: First, second and third, $7500, $3500 and $1500 respectively; fourth, fifth and sixth, $750, $500 and $250 respectively; thirty-four prizes of $100 each.

The competition is to be a paper on arc welding and besides being a novel manner of stimulating interest in this progressive method of building fabrication, will offer an opportunity for young engineers and students to obtain the means for travel and study.

$20,000 RESIDENCE

Ralph Wyckoff, architect, of San Jose, has completed plans for a two-story stucco residence to be built in the Garden City for Dr. E. P. Cook, at a cost of $20,000.

PORTLAND BUILDING NOTES

Preliminary plans for the new Federal building in Portland, Oregon, as outlined by Morris H. Whitehouse and Associates have been approved.

The site is the block at Broadway, Sixth, Main and Madison Streets, and the building set back 20 feet from all streets, will cover an area 160x160 feet with a light court 65x78 feet and will be seven stories in height. The estimated cost is $1,175,000.

Claussen & Claussen are architects of a two-story apartment house to be erected on the 150x100 foot southwest corner of Fifth and Montgomery Streets, in conjunction with the modernizing of the existing building. Construction will be of concrete with brick-veneer.

George M. Jones is architect for the $200,000 Rigler school building to be erected at 55th and Prescott Streets. The building will be a two-story and partial basement, to house seven class rooms.

Morris H. Whitehouse and Associates are preparing plans for the $200,000 Sixth Church of Christ Scientist building, to be erected at West Park and Columbia Streets.

F. Marion-Stokes is architect for a school at Union High School district No. 4 (Scappose, Oregon), estimated to cost $50,000. The building will be one-story, reinforced concrete with stucco and have cast stone and terra cotta trim with tile roof.

Plans are being prepared by J. W. DeYoung, architect, for a $100,000 hotel, to be erected in Lakeview, Oregon, by local capital. The building will have 60 rooms with 100 per cent baths.

MARTINEZ HALL OF RECORDS

E. Geoffrey Bangs, architect, of Oakland has been selected from a list of twenty-six applicants to act as architect for the proposed $500,000 Hall of Records, at Martinez, Contra Costa County, California. The appointment was made by the County Board of Supervisors, the two previous appointees, W. H. Weeks and John J. Donovan, having resigned.

FEWER DRAUGHTSMEN UNEMPLOYED

Though there are unmistakable signs of revival in the building industry, unemployment in the architectural profession is still at a high level, according to a report of conditions in the metropolitan district made public by the Architects' Emergency Committee, of which Julian Clarence Levi, Fellow of the American Institute of Architects, is chairman.

The Committee pointed out that, while destitution threatens large numbers of highly trained professional men, New York and other cities are in crying need of their skill. The Producers' Council, an organization of manufacturers and associations of manufacturers, representing a combined capital of $22,500,000,000, joined in urging that architects be enlisted to check the disfigurement of town and country by cheap construction and ugly design.

"In our large cities," the Council asserted, "hundreds of buildings are being designed by people who are not prepared by training or experience to do the work in the proper way. Inferior materials are being used; good materials are used in the wrong way.

"The suburbs of our large cities, like New York, Chicago, and Philadelphia are being built up by speculative interests in a manner that constitutes not only an artistic disgrace but a fire hazard, and eventually will result in great economic loss."

The Committee has appealed to the architects of New York, New Jersey, and Westchester to contribute funds for the aid of idle draftsmen, many of whom are graduates of leading architectural schools here and abroad, and have won distinction in the arts of design.

During the last three months, the Committee reported, nearly 800 draftsmen have registered for employment at the Bureau established at the Architectural League, 115 E. 40th Street, New York City. Of these, more than 500 were said to be destitute.

Architectural employment has been found for about 120. Many of these were placed with the Architects' Small House Service Bureau, the Emergency Work Bureau, and the Regional Plan of New York. Others secured private jobs.

Those employed through the Emergency Work Bureau were paid out of the Prosser Committee fund on the basis of five dollars a day for a three-day week. The architects of New York, it was pointed out, contributed about $38,000 to the Prosser fund, but of this amount only about $4,000 was spent in architectural salaries.

Since no further Prosser Committee funds are available, the Architects' Committee is, it was stated, compelled to raise its own fund from members of the architectural profession.

"We cannot allow this fine body of experienced men to starve," said the appeal. "They must be kept going until business picks up."

All of the money received will be spent for the direct benefit of the unemployed, without deduction for Committee expenses. Pledges of five dollars a week upward, or donations in a lump sum are asked.

Leading members of the American Institute of Architects in other cities, it was asserted, are optimistic over the outlook, though they do not minimize the immediate difficulties of the situation in the building industry. A new era, characterized by a demand for better construction, and the elimination of "jerry building," is seen.

PLEASED WITH ARTICLE

In the March issue of THE ARCHITECT AND ENGINEER, the article "It's a Hell of a Game", I think deserves very favorable comment.

You are interested, I am sure, in the reactions of your readers to various material published in your very worthy magazine. To me this particular article is one of the most interesting that I have read in quite some time. It might be it's lack of technical matter that is responsible for my liking it. I think, however, that an article of this type can well be placed along side of the technical articles and relieve the general strain and monotony.

Yours for more articles of a similar type, I am,

Sincerely.

Richard Vander Straten, A. I. A.

STORES AND OFFICES

Plans are being prepared by Morgan, Walls & Clements of Los Angeles, for a four-story and basement Class C store and office building to be erected on the southeast corner of Sunset Boulevard and Laurel Avenue, Los Angeles, for Mrs. Elsie R. Ornstein.

ARTHUR BROWN, JR. HONORED

At the annual Charter Day exercises at the University of California on March 23, Arthur Brown, Jr., architect, was conferred with the degree of Doctor of Laws, in recognition of his distinguished work in architecture.

SOCIETY and CLUB MEETINGS

WASHINGTON'S BIRTHDAY BICENTENNIAL

Institute Chapters have been asked for their indorsement of the proposed celebration of the two hundredth anniversary of the birth of George Washington in 1932. The following resolution has been adopted by the Washington State Chapter:

"WHEREAS, The Congress of the United States has created a Commission to arrange a fitting nation-wide observance of the Two Hundredth Anniversary of the Birth of George Washington in 1932, and

"WHEREAS, The Commission so created, composed of the President of the United States, the Vice-President of the United States, the Speaker of the House of Representatives, four members of the United States Senate, four members of the House of Representatives, and eight citizens appointed by the President of the United States, is charged with the duty of planning and directing the celebration, and

"WHEREAS, The high purpose of the event is to commemorate the life, character and achievements of the most illustrious citizen of our Republic and to give every man, woman and child living under the Stars and Stripes an opportunity to take part in the celebration which will be outstanding in the world's history, and

"WHEREAS, The George Washington Bicentennial Commission, desiring the full co-operation of the people in the United States has extended a most cordial and urgent invitation to our organization to participate in the celebration, therefore, be it

"RESOLVED, That the American Institute of Architects, Washington State Chapter, does hereby endorse the program of observance of the Two Hundredth Anniversary of the Birth of George Washington, to take place in 1932; accept with appreciation, the invitation of the George Washington Bicentennial Commission, and pledge this organization to extend earnest co-operation to the United States Commission in all possible ways, so that future generations of American citizens may be inspired to live according to the example and precepts of Washington's exalted life and character, and thus perpetuate the American Republic, and be it further

"RESOLVED, That this resolution be incorporated in the official proceeding of this meeting and that a copy thereof be transmitted to the George Washington Bicentennial Commission, Washington, D. C.

ARCHITECTS HOLD INSTITUTE

A large number of architects in the Northwest attended the Second Annual Institute of Architects held at Pullman, Washington, March 20 and at Spokane, March 21.

The sessions were held under the auspices of the Department of Architectural Engineering, State College of Washington. A feature of the opening day was the annual banquet with addresses by Roland E. Borhek of Tacoma; Roy C. Jones, Professor of Architecture, University of Minnesota, and F. W. Bosworth, Jr., Dean of the School of Architecture, Cornell University.

The meeting in Spokane was held in the Medical and Dental Building auditorium. It was presided over by Stanley A. Smith, head of the Department of Architectural Engineering, State College of Washington. Addresses were given as follows:

"Where Do We Go From Here?"—Roland E. Borhek, Tacoma.

"Present Tendencies in the Teaching of Architecture"—F. H. Bosworth, Jr., Dean, School of Architecture, Cornell University.

"The Future Architect"—Roy C. Jones, Professor of Architecture, University of Minnesota.

"Factors Affecting the Hearing of Speech Sounds"—Benton L. Steele, Professor, Department of Physics, State College of Washington.

"Painting Specifications for the Architect"—O. R. Hartwig.

Entertainment features included luncheon at The Oasis, where "The Kings Castle," a radio play was produced by a group of students from

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the Department of Architectural Engineering, W. S. C. at an informal dinner at the Davenport Hotel. Harry C. Weller, Assistant Professor of Architecture at W. S. C., spoke on "The 1930 International Exposition at Antwerp."

SOUTHERN CALIFORNIA CHAPTER

Dr. Edwin D. Starbuck of the School of Philosophy, University of Southern California, was the principal speaker at the regular monthly meeting of Southern California Chapter, American Institute of Architects, Thursday evening, March 19. The subject of Dr. Starbuck's address was "Integration of the Works of Art," and was illustrated from the fields of architecture, the allied arts and music.

The current work of the students of the college was on exhibition. During and immediately following the dinner hour some of the students gave a program consisting of musical and dance numbers.

Louis B. Bersback, vice-president of the Minnesota Chapter, attended the meeting and talked on some of the problems of the profession in the state of Minnesota.

A motion was adopted endorsing the Los Angeles city school bond issue, which was submitted to the voters on March 27 and unanimously approved.

Another motion was adopted endorsing the Chapter legislative committee's action in approving the following bills:

Assembly Bill 487, amending the act regulating the practice of architecture. This bill passed the Assembly on March 12.

Asembly Bill 625, amending the engineers' registration act, establishing the title of structural engineer.

Assembly Bill 616, amending the engineers' registration act, defining the term civil engineer, and other clarifying amendments.

Bills 625 and 616 are now pending in committee.

A rising vote of thanks was given Robert H. Orr for the service he has rendered the profession in connection with his duties as a member of the Los Angeles Building and Safety Commission.

President H. C. Chambers presided at the meeting and Arthur C. Weatherhead, dean of the College of Architecture, University of Southern California, presented the speaker of the evening.

WASHINGTON STATE CHAPTER

The March meeting of Washington State Chapter, A. I. A., was held at the College Club, Seattle, and after the usual dinner the business meeting was called to order by President Borhek.

The secretary reported that a considerable num-

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ber of replies had been received to the letters sent out by the Chapter to various other Chapters of the Institute regarding the employment of private architects on Government work. One letter was read from the New Jersey Chapter expressing approval.

Mr. Ford, Chairman of the Committee on Institute Affairs, reported a recommendation of this committee that the Chapter look into the affairs of the Architects' Small House Service Bureau, the Bureau being affiliated with the Institute, and desiring information in regard to support it can expect for its present and proposed activities.

Mr. Vogel, reporting for the Legislative Committee, of which he is chairman, traced the course of Substitute House Bill No. 182, as the Architects' License Bill was called, and House Bill No. 114, the Engineers Bill; through the Judiciary Committee and into the Rules Committee of the State House of Representatives from which it was hoped they would emerge the following day. Chairman Vogel was rightly commended by the President for the efficient manner in which he had conducted the work and for the great amount of thought and energy expended.

President Borhek spoke of a resolution passed by the State Association of California Architects, proposing a convention of architects, as individuals or in groups, who are not identified with the Institute, for the purpose of getting together the architects throughout the country, not now organized nationally, for an exchange of views and the general welfare of the profession. This occasioned some discussion of an interesting character.

The president also referred to an editorial relative to the employment of local architects on government work, asking how many members of the Chapter had acted on the advice suggested by communicating with Senators and Representatives in Congress urging the importance of early action.

The meeting was then turned over to Mr. Bain, Chairman of the Program Committee, who introduced Chester J. Hogue, in charge of the Technical Service of the West Coast Lumbermen's Association.

OREGON CHAPTER

The regular monthly meeting of the Oregon Chapter of the American Institute of Architects was held at the University Club, March 12. Those present were Messrs. Doty, Lawrence, Aandahl, Whitney, Jones, Howell, DeYoung, Holford, Stanton, Tucker, Belluschi, Church and Crowell.

The guests were Messrs. Hunt Bosworth, Roy Child Jones, Roland E. Borhek, Kable, Van Eton, H. Abbott Lawrence.

Messrs. Jones, Bosworth and Borhek (being properly introduced by President Doty and Mr. Lawrence) gave interesting and instructive talks on Schools of Architecture, Architects, Builders and other related subjects, after which an open discussion took place on the various conditions and problems with which the profession is confronted.

President Borhek of the Washington State Chapter, spoke enthusiastically of the activities and co-operation within his own Chapter and urged a closer union of the Chapters of Oregon and Washington.

A motion that the Oregon Chapter immediately start correspondence looking to a union meeting of the two Chapters was passed unanimously.—W.H.C.

WASHINGTON STATE CHAPTER

The first regular meeting of Washington State Chapter, A. I. A., for 1931, was held February 5 at the College Club.

Mr. Holmes made a short report on Honor Awards, giving an account of a conference with Executive Secretary Noyes of the Seattle Real Estate Association; Mr. Erskine, the president, being absent from the city. The suggestions presented by Mr. Holmes for his committee were favorably received by Mr. Noyes, who was to submit them to the president on his return.

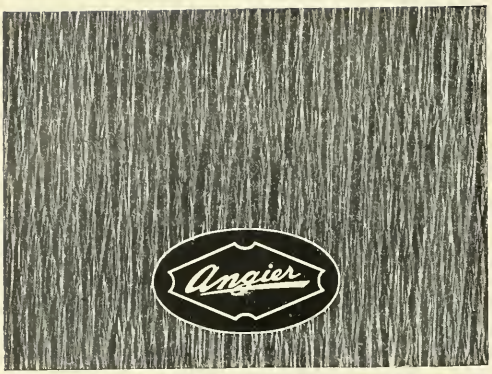
Mr. Vogel reported for the legislative committee, speaking of the Architects' License Bill, now before the State Legislature and known as House Bill No. 182. In due course of time hearings would be held and would be attended by President Borhek, John Hudson and John L. McCauley of the State Society and Ernest B. Hussey of the American Society of Civil Engineers. The situation appeared satisfactory, except for some difficulty in connection with work bordering on the line of demarcation between architects and engineers.

New committees for the coming year were announced by the president, who also announced the replies to the questionnaire relative to programs at meetings. These replies were turned over to Mr. Bain, chairman of the program committee.

Mr. Vogel, the new chairman of the committee on public information, reported on a proposal for a page in the daily newspapers, to be devoted to the building industry and conducted by a publicity expert, this matter to be considered more in detail by the committee.

Secretary Gowen read a draft of a letter proposed by the executive board to be sent to all Chapters of the Institute relative to the government building situation. It was voted that this letter be sent to the various Chapters.

Harlan Thomas presented the subject of the



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Early action being desired on any contributions the Chapter might desire to make to the University and State College, it was voted that appropriations be made similar to last year—$100.00 to the University for the Fontainebleau Scholarship, and $50.00 to the State College for appropriate prizes .

President Borhek then made a few remarks in the way of an inaugural address on the subject of publicity and the profession of architecture.

INSTITUTE CONVENTION

The Pacific Coast Chapters were all well represented at the annual A. I. A. Convention at San Antonio, which began April 14th and ended on the 16th. One of the subjects that brought forth lively discussion was the question of uniform registration laws. Past President D. Everett Waid was chairman of the special committee appointed to thresh out this problem. The architects and engineers have been unable to agree on what should be the scope of each profession as defined in registration or licensing acts. Serious differences of opinion have developed between certain engineers and the conclusions reached by their engineer representatives in conference with the architects; and in direct contrast some architects have found fault with what their architect representatives have concluded in a preliminary way with the engineers. At this writing we have not learned the outcome of the controversy in so far as the convention was concerned.

PRACTICE TEST FOR APARTMENT HUNTERS

What is a "Master's Bedroom?" Answer—Any chamber larger than eight by eight square feet.

Who designed the first "dinette?" Answer—Tom Thumb, Barnum's famous midget.

What distinguishes an "apartment" from a "flat?" Answer—Six yards of gold braid on the doorman's arm.

What is a "kitchenette?" Answer—A telephone booth with running water.

What is a "cedar closet?" Answer—A subterfuge to divert your mind from the tiny size of the bedroom.

What are "moderate rentals?" Answer—Always just a little more than you can afford to pay.

What is meant by a "sunshine-flooded apartment?" Answer—One in which a single ray of sunshine intrudes between 11:02 and 11:05 A. M. daily.

What is the difference between a "janitor" and a "superintendent?" Answer—Seventy-five dollars a month additional rent.—*Arthur L. Lippman in College Humor.*

SMALL HOUSE COMPETITION

Announcement was made recently by Dr. Ray Lyman Wilbur, President of Better Homes in America, of the winners in the Small House Architectural Competition recently conducted by that organization. The gold medal was awarded to Reginald D. Johnson of Los Angeles for a bungalow erected at Hope Ranch, Santa Barbara.

Honorable Mentions in the two-story class were awarded to Dwight James Baum of New York for a residence built in Fieldston, New York, and to C. C. Merritt of Larchmont, New York, for a residence at Greenwich, Connecticut. In the story-and-a-half class Honorable Mentions were awarded to Raymond Percival of Hartford, Connecticut, for a residence built in Collinsville, Connecticut, and to C. C. Merritt of Larchmont, New York, for a residence at Greenwich, Connecticut. In the bungalow class Honorable Mentions were awarded to H. Roy Kelley of Los Angeles for a house built at Palos Verdes, to Roland E. Coate of Los Angeles for a residence at Leimert Park, and to Donald D. McMurray of Pasadena.

Each of these awards were made for houses actually erected in the year 1929, for the purpose of the competition was to discover and call to public attention the best small houses that had actually been built during the preceding year.

The committee which judged this competition, was appointed at the request of Dr. Wilbur by Robert D. Kohn, President of the American Institute of Architects, and the gold medal was the gift of Mrs. William Brown Meloney of New York City and was designed by Gutzon Borglum, sculptor.

The other members of the jury were George Howe of Philadelphia, William J. Sayward of Atlanta, Georgia, and Erwin S. Porter and Ward Brown of Washington, D. C. A full report of the committee follows:

"The jury met in The Octagon, December 19, 1930, examined all submissions to the competition in accordance with the terms of the program, and begs to report as follows:

"This being the first competition of the kind conducted by Better Homes in America, the jury was mindful of an unusual responsibility in respect to this first award which would in a measure establish a precedent as to quality of designs that should be premiated.

"While the designs submitted came from a wide geographical area, many states were not represented. With very few exceptions, the exhibits of one-story houses came from California.

"In confining the award of medals to the one-story category, the jury felt that the establishment of the medal standard in the one-and-a-half and two-story groups might well be deferred for a

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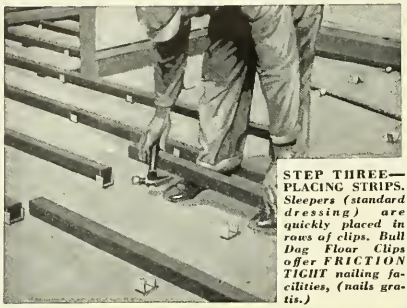


STEP THREE—PLACING STRIPS. *Sleepers (standard dressing) are quickly placed in rows of clips. Bull Dog Floor Clips offer FRICTION TIGHT nailing facilities, (nails gratis.)*

THE Bull Dog Method of anchoring wood floors over concrete provides dead air space, *eliminating dry rot*, doubling floor life. If desired, concrete cross headers can be used to prevent draft and travel of rodents.

Other points in favor of the Bull Dog Method are: no fill to dry, no beveling or shimming, sleepers and finished floor laid at same time; reduction of dead load 18,000 lbs to 1,000 square feet of slab area; permanent and secure anchorage, preventing buckling, squeaking and doming. The Junior Clip ($\frac{5}{8}$" wide) may be used with or without a fill (dependent on the service duty of the floor.) When a fill between the sleepers is desired, any cheap, inexpensive mix such as sand, cinders or cinder concrete can be used.

Millions of BULL DOG FLOOR CLIPS on over 8,000 jobs carry testimony of satisfaction. Made for 2, 3 and 4 inch sleepers. Regular and Junior Styles. Friction tight nailing facilities (nails gratis.) Write for catalog and samples.

THE BULL DOG FLOOR CLIP CO.
108 N. First Ave., Winterset, Ia.
135 Representatives—15 Warehouse Stocks

BULL DOG Floor Clips

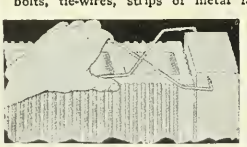
REGULAR CLIP—*3 sizes, 2, 3 and 4 in. 20 gauge galvanized iron.*

Original Patent granted June 14, 1921
Reissue Patent granted June 29, 1924
Process Patent granted May 19, 1925

JUNIOR CLIP—*3 sizes, 2, 3 and 4 in. 18 gauge galvanized iron.*

The Bull Dog Buck Anchor

THE Bull Dog Buck Anchor forms a rigid truss in the mortar joint which prevents the movement of the buck in any direction. It eliminates the use of nails, screws, bolts, tie-wires, strips of metal lath and iron, and all pounding against the back sides of the buck. Made in three widths of No. 10 Galvanized Steel Wire: 3 in., 4 in., 6 in. Ten per cent of anchors in packing cases are shorts to take care of spaces too short for the regular size anchor.



year, when a larger representation in these two groups may be expected.

"The jury awards the medal in the one-story class to Reginald D. Johnson, Los Angeles, for Cottage No. 2, on estate of Wm. R. Dickinson, at Hope Ranch, Santa Barbara, California. It was felt that this exhibit was of an architectural character that readily lent itself to a wide geographical application; that it was extremely simple in character, charming in detail, and an excellent piece of design and in harmony with a most fortunate setting.

"Within the same group the jury gives Honorable Mention to the following:

"H. Roy Kelley, of Los Angeles, California, for House 'F' at Palos Verdes. This house appealed to the jury as a straightforward solution of the problem expressed through simple mass and compact plan.

"Roland E. Coate, of Los Angeles, California, for residence for Leimert Park, which was appreciated for its well organized plan, simple mass and well studied proportions and details.

"Donald D. McMurray, of Pasadena, California, for House No. 2 for its charming treatment of exterior and handling of planting.

"In the one-and-a-half story class, Honorable Mention is given to Raymond J. Percival, Essex Building, 15 Lewis Street, Hartford, Connecticut, for the residence of Stanley H. Withe of Sunnyside Farm, Collinsville, Connecticut, and to C. C. Merritt, of Larchmont, New York, for his design of residence of Russell Hoyt, at Greenwich, Connecticut.

"In the two-story class, Honorable Mention is given to Dwight James Baum, Riverdale-on-the-Hudson, New York, for a residence (of Miss E. C. Malady, Fieldston, N. Y.) of distinguished quality, and to C. C. Merritt, of Larchmont, New York, for the residence of Frank H. O'Reilly, at Greenwich, Connecticut.

"The Jury feels that Better Homes in America is to be very highly commended for conducting this competition which deals with one of the most difficult problems that the architect is called upon to solve."

A similar competition will be conducted this year and the closing date for architects who care to compete will be December 1. In this competition architects may submit photographs and plans of houses the cubic area of which does not exceed more than 24,000 cubic feet for the story and the story-and-a-half classes and 26,000 cubic feet for the two-story class. Houses competing must have been erected between the years 1926 and 1930, inclusive. Architects who are interested may secure copies of the outline of the competition by writing to Better Homes in America, 1653 Pennsylvania Avenue N. W., Washington, D. C.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $28 to $33 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $9.00 plus cartage.
Face, f.o.b. cars, $40.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 75.00	per M
4x12x12 in.	85.00	per M
6x12x12 in.	124.00	per M
8x12x12 in.	188.00	per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$87.00
6x12x5½	60.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Rubber Tile—55c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.

Terazzo Steps—$1.50 lin. ft.

Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2500; direct automatic, about $2400.

Excavation—
Sand, 50 cents; clay or shale, $1.00 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3 Form Lumber	$15.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	37.00 per M
1 x 6 No. 2 and better flooring	40.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	30.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

	T&G	T&G	Sq.Ed.
13-16x3¼" T & G Maple	$130.00 M ft.		
1 1-16x2¼" T & G Maple	140.00 M ft.		
⅞x3½ sq. edge Maple	127.00 M ft.		
	13-16x2¼"	⅞x2"	5-16x2"
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $3.00 base.
Belgian nails, $2.75 base.

Millwork—
O. P. $80.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $6.50 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.50 each.
Dining room cases, $6.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

NOTE—Above quotations are for ⅞ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Verde Antique	3.00 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft
Tennessee	1.70 sq. ft.

Painting—

Two-coat work	30c per yard
Three-coat work	40c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 78c per gal. in cans and 63c per gal. in drums.
Raw Linseed Oil—$.84 gal. in bbls.
Boiled Linseed Oil—$.87 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb lots	12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt.	13¾c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $7.50 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Atlas finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.

Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—
Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$90 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $86.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

COLLEGE OF ARCHITECTURE

The School of Architecture, University of Southern California, will be made a college in that institution with a regulation five-year course, it is announced by President Von KleinSmid.

Parallel to architecture the University has established three five-year courses in the related arts leading to the degree of bachelor of decorative arts. These comprise professional courses in interior architecture, mural painting and sculpture.

The architecture building at 659 West Thirty-fifth Street, Los Angeles, was especially planned for the study of architecture with particular attention paid to the grouping of the various departments and providing for the specialized nature of their respective work. The University plans to erect a permanent building for architecture and fine arts on the campus adjacent to Exposition Park.

The library of the University contains approximately 150 volumes on architecture and the allied arts, 400 bound magazines, 3500 mounted photographs and 5000 lanterns slides.

KAWNEER HAS GOOD YEAR

The Kawneer Manufacturing Company of California held its annual meeting recently and elected Charles M. Boynton, president; John J. Meyers, vice-president and Richard C. Jorgensen, secretary and treasurer. The directors are Mr. Boynton, Mr. Meyers, John A. Fraser and Francis J. Plym.

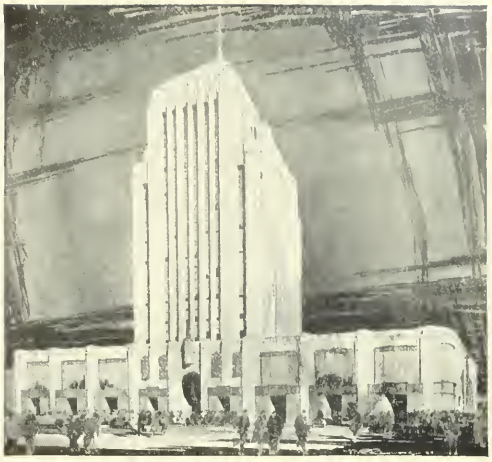
The company reports a good year in spite of the general business depression. The Berkeley plant has been in operation for the past eighteen years under the efficient management of Mr. Boynton. Some of the outstanding contracts during that period have been the Berkeley Public Library; Capwell Department Store, Oakland; Bon Marche Department Store, Seattle; O'Connor Moffatt Store, San Francisco; Mason-McDuffie Building, Berkeley; California Life Building, Sacramento; Meyer & Frank Department Store, Portland; many of the Kress and Woolworth stores throughout the Pacific Coast and numerous other structures.

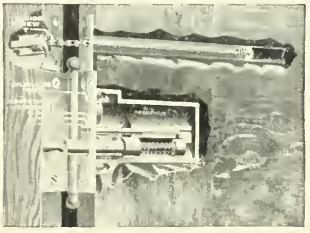
HEALDSBURG HOTEL

Dr. C. W. Weaver, 329 Matheson Street, Healdsburg, and others are interested in the construction of a six-story reinforced concrete inn on the Russian river, near Healdsburg. The plans call for sixty rooms and an expenditure of $100,000.

YUBA CITY SCHOOL

The Yuba City School District will erect a $90,000 brick elementary school building from plans by Davis-Pearce Company of Stockton.





The handsome new
DOMINGUEZ-WILSHIRE BLDG.
Los Angeles

Architects: Morgan, Walls and Clements.
Contractor: C. L. Peck, Inc.

Patented in U.S.A. and foreign countries

COMPLETELY EQUIPPED WITH CONDOR *concealed* DOOR CHECKS

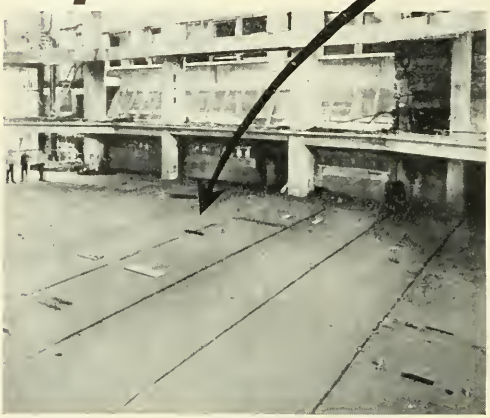
No longer need beautiful design be marred by unsightly door closers. Condor Concealed Checks are invisible. Even more important, their endurance has been proved by hundreds of installations, as well as by engineers' tests equaling 10 years' service in a metropolitan office building.

Easily installed, the Condor Check operates successfully in any type of door, including round-top, heavy entrance doors and wickets.

Concealment, endurance, adaptability—many checks have one of these features; a few may have two; but the Condor has all three! New catalogue, including engineers' endurance report, on request.

THE CONDOR COMPANY
1675 EDDY STREET ◆ SAN FRANCISCO, CALIFORNIA
Pacific Sales Representative: ANDREW CARRIGAN COMPANY
Los Angeles, *Architects Bldg.* San Francisco, *Realto Bldg.* Seattle, *Dexter Horton Bldg.*

this protection



makes good concrete even better—

SISALKRAFT protection for new concrete floors does more than keep off the refuse, dirt, and stains of other trades—it forms a continuous, watertight and weathertight membrane over the new concrete, holding in the moisture necessary for proper curing.

Only Sisalkraft has the toughness and durability that comes from a re-enforcement of crossed, non-elastic sisal fibers imbedded in the waterproofing asphalt. It stands an amazing amount of rough treatment and assures clean, well cured concrete.

Write for a special folder on concrete curing and protection.

THE SISALKRAFT CO.

205 W. WACKER DRIVE (CANAL STATION)
CHICAGO, ILL.
55 NEW MONTGOMERY STREET
SAN FRANCISCO, CALIF.

SISALKRAFT

Reg. U. S. Patent Office

"more than a building paper"

AE 4 Gray

BOY MODEL GENIUS

The genius of Robert J. Schultz, 15-year-old Oak Park, Ill., high school student, who constructs models of buildings, paints oil and water-color pictures and sculptures statues in soap with equal skill, is attracting nation-wide attention.

One of his works of architectural art is a model of St. Cecelia's church, Cincinnati. Robert recently won first prize with special recognition in the Cincinnati boys' hobby fair with this model, which was built exactly to scale from architectural drawings of the edifice. The windows are mica painted in oil, the window frames are of balsa wood hand-carved by using safety-razor blades; the arches are of white pine and the plaster on the inside is formed of flour and salt. Even the interior of the church, with its altars, statutes, pews and decorated windows, has been reproduced in the minutest detail by the youthful artist.

Young Schultz has been receiving prizes for his work ever since he was five years old and attending kindergarten in Cincinnati. He is a sophomore in the Fenwick High School, Oak Park, Ill.

BUILDING TRADE LITERATURE

The Stedman Rubber Flooring Company of South Braintree, Massachusetts, has recently issued a series of small booklets detailing the usage of reinforced rubber tile in hotels, hospitals, stores and office buildings. These booklets are of particular interest to the architectural profession and the Stedman Company will be glad to furnish copies upon application.

A new catalog of electric meters for the computation of CO2 in flue gases, has just been issued by the Brown Instrument Company of Philadelphia. This catalog is well composed and intelligently written and illustrated. It is intended to appeal to the architect of industrial buildings and to all heating and furnace contractors.

The Lewis Corporation of Minneapolis, in a recently published brochure on air conditioning, points out the many factors upon which the proper conditioning depends and of which evaporation of water or humidifying is one. Rapid evaporation with low water consumption is advocated as well as the washing clean of the air of all dust and impurities, the forcing of circulation air through, and the increasing of its moisture carrying capacity. A copy of the booklet may be obtained by addressing the home office.

UNUSUAL DESIGN FOR TERMINAL BUILDING

That there is a place for architectural design in our industrial and commercial construction is an almost revolutionary thought, yet W. M. Cory, architect, has demonstrated it with remarkable effectiveness, in his design of the new Starrett Lehigh Terminal Building, just being completed in New York City.

LEHIGH TERMINAL BUILDING, NEW YORK
W. M. Cory, Architect

A terminal building has long been considered as an official title for just another warehouse, with the principal requirements being sufficient length, width and height to handle the material and to house the activities of the railroad or corporation.

The Starrett-Lehigh Terminal Building is modern, some may even call it modernistic. It combines in its construction two of the latest contributions to present day architecture,—the set-back principle, which is purely American, and the highly accentuated horizontal lines that are so prominent in the best examples of European construction.

The feature of this building is the entire absence of the vertical lines or supports in the wings. The cantilevered walls consist of alternate horizontal strips of stone and continuous runs of Fenestra type horizontally pivoted steel windows. The general appearance resembles somewhat the exclusive Beau Arts Apartments, in New York City, where Kenneth Murchison and Raymond Hood used a neutral colored brick for their vertical piers between the steel casement windows, so that the horizontal lines of light colored stone stood out boldly and presented an unusual effect

Redstone Apartments in San Francisco. Henry C. Smith, Architect; J. A. Pasqualetti, Owner and Builder. Cabot's Triple-ply Quilt in all partitions.

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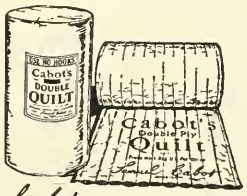

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P. J. WALKER COMPANY, *Builders*

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HENRY H. GUTTERSON, *Architect.*

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American Marble Company

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of alternate ribbons of building stone and steel windows. In this building, a startling innovation was introduced by having the windows meet at right angles at the corners.

Maintenance and operating costs of a building of this size are major items to be taken into consideration from the very beginning, and the designers have made it possible to utilize natural light to the largest possible extent.

The large window expense naturally reduces the weight of the exterior walls to be supported by the cantilever arms, with a corresponding saving in the cost of the structural steel.

AIR CONDITIONING HIS THEME

The human body is a thermostat of the most complicated construction and only because of its sensitiveness and flexibility can persons readily adjust themselves to sudden changes of climate, according to W. H. Carrier, New York, president of the American Society of Heating and Ventilating Engineers, who addressed the San Francisco members of the A.S.H.V.E. at the Clift Hotel on April 3, on "Servicing the Human Power Plant."

Where ideal climate is not provided by nature, any type of weather can be made in order to produce maximum comfort for people. Mr. Carrier stated that, perhaps of all animals, with the possible exception of the horse, man is best able to stand high temperatures. The respiratory system of the ape is very feeble compared with that of man. A monkey exposed to the extreme heat of the sun for any length of time would scarcely be affected.

It was not until the art of air conditioning had been largely perfected to industrial uses that its value as a factor in human comfort and efficiency was recognized or applied. It may be said that the knowledge of the underlying scientific principles and the development of the technic as to the methods of application of air conditioning for industry paved the way for the wider application of air conditioning for human comfort. Also the research work of the American Society of Heating and Ventilating Engineers, in cooperation with the U. S. Bureau of Mines and the U. S. Public Health Service at Pittsburgh, during the last eight years, has definitely determined physiological effects of all ranges of atmospheric environment and more specifically has determined the definite requirements for optimum human comfort. Both these devolopments have thus made possible the intelligent and scientific application of air conditioning to promote human comfort and efficiency.

Mr. Carrier predicts that the future of air conditioning lies not in its application to theaters, department stores, and office buildings, but to the home, where a great part of a person's time is spent. Here is where the most can be done to con-

serve the health and comfort of the people as a whole. The floors on which the children play should not be cold or draughty, and extremes of temperature and excessive variability should be prevented. Extreme dryness in winter is to be avoided. Relief from the torrid days of summer is desirable when it can be afforded, and the home can be made more comfortable in summer than the finest summer resort, and with far less annual expense.

Viewing the art of heating homes as it is today, Mr. Carrier feels that the zenith of present methods has been approached. A point has been reached where its defects are being recognized, where the demand for human comfort and even luxuries outweigh considerations of cost. It is for this reason that Mr. Carrier predicts a rather abrupt change within the next 5 years in the method ot obtaining bodily comfort in homes. Inevitably it will be some form of air conditioning equipment which will provide equitable heat in the winter with the proper degree of moisture and thorough cleanness of the air in the rooms as well as reasonable ventilation. It is Mr. Carrier's idea, that it should be possible to cool homes in summer, to reduce the enervating humidity on sultry days, and to sleep soundly in cool bedrooms at night.

PEELLE DOORS INCREASE EFFICIENCY

The new building of the Brunsing Drug Company, Los Angeles, is equipped with Peelle motorized doors. These doors cover openings 8 ft. high and are synchronized in operation with the Otis high-speed micro-drive freight elevator, and open automatically when the elevator is within the micro drive zone of the floor at which it is desired to stop. The doors open in 3 seconds.

The door closer control is also co-ordinated with the elevator car control and the doors close in 3 seconds, completing all interlocks. The car cannot leave the floor at which it is stopped until the doors are locked. Should it be desired to reopen the door at any floor where the car has stopped, before leaving, the operator merely throws the handle into neutral and the operation of opening and closing can be carried on indefinitely.

All parts, including the doors, guide rails, motor operation, retiring cam, etc., are made and installed by the Peelle Company.

"This Peelle motorized installation is the most efficient type of counterbalanced freight elevator door I have been able to obtain, and also my client is greatly pleased with the results," said A. C. Martin, architect of the building.

Peele motorized doors have been extensively accepted throughout the United States and, according to the manufacturers, can be operated at high speed without injury to the doors, thereby increasing the maximum efficiency of the elevator.

Apartments are used a long time

High grade apartment houses retain their profitable renting capacity for many years. Therefore it pays to equip them with durable materials and avoid repairs and replacements in later years.

Hazard Standard 30% Building Wires are a good investment for apartment owners because of their excellent resistance to age. The "30%" grade is the best in the long run.

In Chicago, the new "1530 North State Parkway Apartments" are wired throughout with Hazard wires. The architects were Granger and Bollenbacher; the general contractor was Ralph Sollett & Sons Construction Co.; the electrical contractor was Bambula-Bach Electric Company.

Hazard Insulated Wire Works

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CAMPBELL WINDOW AGENCIES

Alvin M. Karstenson, Pacific Coast Manager of the Campbell Industrial Window Company, 100 E. 42nd Street, New York City, has selected as representatives and distributors for that company in Southern California, Arizona and Southern Nevada, the Continental Building Specialities, Inc., 408 S. Spring Street, Los Angeles; and for Northern California and Northern Nevada, the Fire Protection Products, Inc., 1101 Sixteenth Street, San Francisco.

For many years the personnel of Continental Building Specialities, Inc., of Los Angeles, have been considered leaders in the building supply business, having sold and installed some of the first metal doors and windows used in California.

B. L. Wilcox, L. M. Scofield, E. B. Taylor, E. B. Binford and L. G. Bradfield are the active members of this organization. They are well known in their line of business. The company has constantly added to its lines, equipment and facilities, until its service today includes erection, alteration and manufacturing.

The Fire Protection Products, Inc., of San Francisco, of which J. C. Schultheis is manager, is well known to the trade. L. E. Brown, formerly of the firm of George W. Kelham, architect, will be in charge of the sales of all Campbell products. Fire Protection Products, Inc., will carry a complete stock for immediate delivery, in its warehouse at 1101 Sixteenth Street, San Francsico.

The Campbell Industrial Window Company will specialize in the field of industrial windows and doors for every type of installation and service requirement. Its line of products includes casement windows, horizontally pivoted industrial windows, and projected windows of the commercial, architectural and office type, utility windows and continuous windows and doors. These windows have ventilators which are protected by weather stripping which shuts out the wind, rain and snow, and excludes dust, dirt, smoke and soot and reduces the cost of heating a building. This feature is practically the only improvement made in this class of window in the last 20 years, and eliminates the only objection to this type of sash, the manufacturers declare.

Campbell windows have another special feature which can be included, Vitaglass, which creates health wherever used by allowing the vital, health-giving, ultra violet rays of sunlight to pass through, these being the rays that are barred by ordinary glass.

The ability of the organization to handle a large volume of busines on a big scale is further demonstrated in that doors of every type are manufactured, including standard doors and frames, industrial doors, pier and wharf doors, fire depart-

ment doors, and airplane hangar doors.

The company handles a complete line of window hardware and mechanical operating devices. It is also prepared to furnish a high-grade of cast-iron products such as basement windows, coal chutes, chimney and ash dumps for fireplaces, fireplace dampers and ventilators for foundation and attic walls.

This completes the window line which also includes solid section double hung, hollow metal double hung, light and heavy casements in either steel, aluminum or bronze.

Milton T. Clark, formerly vice president of the Truscon Steel Company of Youngstown, Ohio, recently became president of Campbell Industrial Window Co., Inc.

Mr. Clark brings to his new position that same vigorous personality and enthusiasm that helped so much in developing the window business for the Truscon Steel Company. In the ten years he served as manager of that division, he demonstrated his ability by bringing to Youngstown some of the largest contracts ever sold by that company.

It is a strange but interesting fact that his ever upward climb in business success has carried him from coast to coast. Originally a westerner, Mr. Clark hails from San Francisco, California, where he was a leader of business and civic affairs.

DURIRON ELECTS OFFICERS

An election of officers of The Duriron Company was held in New York City recently, with the following result: President, Wm. E. Hall, New York City; Vice-President, Dudley H. Miller, St. Marys, Pa.; Vice-President, John R. Pitman, New York City; Secretary, Robert C. Schenck, Dayton; Treasurer, E. B. Thacker, Dayton. Dudley H. Miller was appointed General Manager and Wm. E. Hall succeeds P. D. Schenck, the late president and founder of the company.

The Duriron Company are manufacturers of "Duriron", an acid-resisting iron alloy that is made into a variety of forms for the handling of corrosive and abrasive liquids, and which are widely used in the chemical and allied industries. They are also marketing a nickel-chrome-silicon steel alloy, which is resistant to many corrosives, under the trade name of "Duriron".

CLARK P. POND PROMOTED

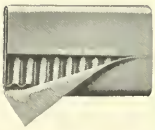
The Truscon Steel Company announces the appointment of Clark P. Pond as vice-president engineering and sales, effective February, 1931. Mr. Pond was formerly connected in a similar capacity

COWING

Pressure Relieving

JOINT

Patented September 1, 1925



Insures Facades Against Cracked or Broken Facing Blocks

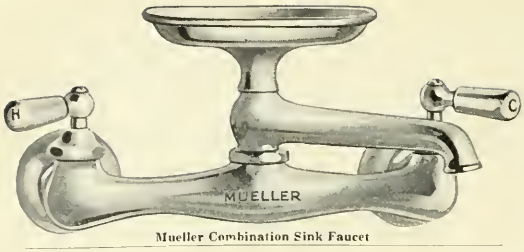
RAND TOWER, MINNEAPOLIS
Holabird & Root, Architects

THE Cowing Joint is installed in the columns and weight carrying mullions at a mortar course. Its purpose is to relieve pressure thrown on the facing material by compression of steel, temperature changes, vibration and wind stresses. Experience has proved that these severe stresses, unless relieved, will crush and break the stone, terra cotta or marble.

Where the Cowing Joint is installed at each story height the building is completely insured against cracks and spalls, the mortar joints are protected from crushing and the maintenance cost of tuck-pointing is eliminated. The facade is in no manner weakened because the Cowing Joint carries the normal weight of the facing material and compresses only enough to relieve the stress.

See "SWEETS" Catalogue

Cowing Pressure Relieving Joint Co.
226 WEST SUPERIOR STREET CHICAGO, ILLINOIS



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A combination of beauty with convenience

The Mueller metal sink combination vividly illustrates the twin features of all Mueller plumbing fitings. The graceful design and chromium finish give it the beauty every modern woman demands in plumbing fittings. Convenient, too—because the spout can be swung over any part of the sink.

Specify Mueller fittings for beauty with convenience and you will get permanent satisfaction.

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Catalog 313 upon request

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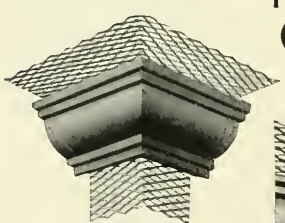
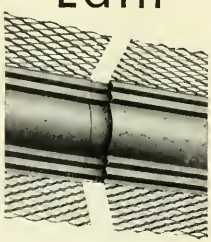
Milcor Expansion Cornice Lath





with expansion metal wings

BEING made of metal, this cornice will not crack. Having the famous *Milcor* expansion wings at each side, it cannot pull away from the plastering.

An invisible joint has been perfected . . . by depressing the cornice, at the joint, the exact thickness of the metal. Precision in manufacture assures a perfect fit. The mitre joint on the new *Milcor* cornice saves time and labor on the job. It is formed at the factory . . . and always fits perfectly. Send for sample sections and complete information.

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MILCOR PRODUCTS

with the David Lupton's Sons Company. He is widely known in the building field, having originated the Top-Hung continuous windows, tension operators and projected windows of vertical and horizontal types. His own roof design for improved natural ventilation and lighting is being utilized in hundreds of buildings today.

In his executive position with the Truscon Steel Company, Mr. Pond will interest himself largely in problems of engineering and sales of all Truscon products.

APPOINTS NEW AGENTS

The Ric-wil Company, Cleveland, Ohio, manufacturers of Ric-wil conduit systems for underground steam pipes, announces the appointment of the following new agents: at Kansas City, Mo., H. H. Wright, 615 City Bank Building; at Wichita, Kans., J. M. O'Connor, 1100 E. Douglas Street; at Omaha, Nebr., B. R. Hawley, 724 Union State Bank Building; and Oklahoma City, Okla., Frank Loeffler Supply Company, 710 N. Hudson Street.

MOVE TO SAN FRANCISCO

Sidney B., Noble and Archie T. Newsom, architects, have moved from Oakland to the Russ Building, San Francisco.

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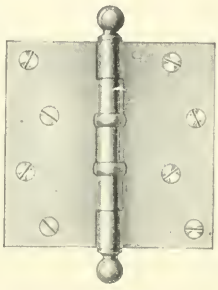
STANLEY SW



NO LICENSE, NO BUILDING

Los Angeles has a new ordinance which requires every person, firm or corporation engaged in the practice of architecture, civil engineering, structural engineering, or acting in the capacity of a contractor or subcontractor, to obtain or have a license from the State of California before any permits or license can be issued by the Department of Building and Safety.

Following is the text of the ordinance:

Section 1. *Architects' License Required.* Whenever it shall come to the attention of the Board of Building and Safety Commission, or any representative thereof, that any person, firm, or corporation is engaged in the practice of architecture, or is acting in the capacity of an architect, as such terms are defined in an act of the State of California, entitled, "An act to regulate the practice of architecture," approved March 23, 1901, as amended by Chapter 68 of the Statutes of 1929 of said State, it shall be the duty of said board or said representative to withhold the issuance of any permit or license, required by any law enforced by the Department of Building and Safety, to any such person, firm or corporation, unless such person, firm or corporation holds a legal license to practice architecture, when and as required by said act.

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JAMES W. PLACHEK, *Architect*

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HAWS SANITARY DRINKING FAUCET COMPANY
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THE SPECIFICATION FOR ALL OCCASIONS

Section 2. *Engineers' License Required.* Whenever it shall come to the attention of the Board of Building and Safety Commission, or any representative thereof, that any person, firm or corporation is engaged in the practice of civil engineering, or is acting in the capacity of civil engineer, as provided in an act of the State of California, entitled, "An act regulating the practice of civil engineering," approved June 14, 1929, Chapter 801 of Statutes of 1929 of said State, or is engaged in the practice of structural engineering, or acting in the capacity of structural engineer, as such terms are defined in an act of the State of California, entitled, "An act to regulate the practice of architecture," approved March 23, 1901, as amended by Chapter 68 of Statutes of 1929 of said State, it shall be the duty of said board or said representative to withhold the issuance of any permit or license, required by any law enforced by the Department of Building and Safety, to any such person, firm or corporation, unless such person, firm or corporation holds a legal license to practice civil engineering or structural engineering, when and as required by either or both of said acts.

Section 3. *Contractors' License Required.* Whenever it shall come to the attention of the Board of Building and Safety Commission, or any representative thereof, that any person, firm or corporation is engaged in the business of contracting, or is acting in the capacity of a contractor or subcontractor, as such terms are defined in an act of the State of California, entitled, "An act providing for the registration of contractors, and defining the term contractor; et cetera," approved June 13, 1929, Chapter 791 of Statutes of 1929 of said State, it shall be the duty of said board or said representative to withhold the issuance of any permit or license, required by any law enforced by the Department of Building and Safety, to any such person, firm or corporation, unless such person, firm or corporation holds a legal license to act as a contractor, when and as required by said act.

Section 4. *Evidence of License Required.* The Board of Building and Safety Commission, or any representative thereof, shall have the right and authority to question and examine any person, firm or corporation applying for any permit or license, required by any law enforced by the Department of Building and Safety, as to whether or not such person, firm or corporation is engaged in the practice of architecture, civil engineering, structural engineering and/or contracting, or is acting in the capacity of architect, civil engineer, structural engineer and/or contractor, as provided in sections 1, 2 and 3 of this ordinance, and may require satisfactory evidence to be submitted to

establish that any such person, firm or corporation is not engaged in any such practice and is not acting in any such capacity.

Before the issuance of any permit or license, required by any law enforced by the Department of Building and Safety, to any architect, civil engineer, structural engineer, and/or contractor, the said Board or said representative may require such applicant therefor to exhibit the state license required by said state acts, or to furnish such information as may be necessary to establish legal possession of such state license.

LANDSCAPE STUDIO

The new landscape studio at Iowa State College is probably the only building of its size and character in America occupied exclusively by an independent department of landscape architecture. The building, 100 feet by 40 feet, is of brick and includes three full floors. The main covered entrance on the ground floor at the south leads past a miniature Japanese garden with its ancient stone lantern from Japan on the left. The southeastern end is used as a plant materials laboratory with a large architectural drafting room for freshmen on the north. A lecture room, a class room, as well as rest rooms, storage, and janitor's rooms complete this floor.

At the head of the stairway on the main or middle floor is the reception hall with a specially-built tile wall fountain. At the right lies the large exhibition and reading room. Just north is a commodious senior drafting room. The remainder of this floor is devoted to offices, filing, and extension drafting rooms.

The third floor, covering the full size of the building, comprises the drafting room, 100 feet by 40 feet, for sophomores and juniors. There is also an ample plan file room and a locker room with board washing tank.

BIDDERS MUST QUALIFY

A news dispatch from Washington says: "Official recognition of the necessary qualifications for bidders on different classes of construction is to be sought by introduction in state legislatures throughout the country of a model law for the pre-qualification of prospective bidders on public work. A draft of the proposed law was submitted and approved at the 12th annual convention of the Associated General Contractors of America, held in San Francisco last month.

The law would require all persons or firms proposing to submit bids for public work to file satisfactory evidence of possessing the necessary ability, capital, equipment and experience to perform the contemplated work before being permitted to bid. Its principle already has been adopted in 14 states and numerous municipalities.

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PAINTS, VARNISHES & LACQUERS

A NEW DEVELOPMENT

Flat Wall Lacquer which covers solid in one coat.

It can be used over textured brown coat plaster to produce very beautiful effects.

You can readily see the economy of such a finish.

Let us tell you of its many advantages.

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Clinton Grilles

match the hardware

COVERED radiators have brought perforated metal grilles into the lime-light. This is true not only in the public building, but in the home as well. With new prominence has come the demand for selected finish. Clinton Metal Grilles in Wissco Bronze, may be had to match any hardware or to harmonize with any color scheme.

Let us send you our own handbook on Grilles. It is more than a catalogue. It's a text book.

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MILLS BUILDING ANNEX, SAN FRANCISCO
LEWIS P. HOBART, *Architect*

Another Lindgren-Swinerton Contract

May Issue
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plus
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Life insurance is good—a man should take out all he can afford. But don't stop there. Remember—life insurance provides money—but *not* the ability to manage it.

The Life Insurance Trust fills this lack — *completes the circle of protection.* It is an arrangement between you and the bank providing for the collection and investment of your life insurance estate, the payment of income to your dependents, and the final disbursement of principal, all exactly as you direct. *Call or write for details.*

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SAN FRANCISCO

PRODUCERS' COUNCIL CLUB

Of interest to architects in Northern California is the recently organized Producers' Council of Northern California. This will be the local council of Producers' Council, Inc., which is affiliated with the American Institute of Architects.

At the organization dinner which was held at the Engineers' Club, G. R. Kingsland of the Otis Elevator Company was elected Governor; N. W. Farlow, Wheeling Steel Corporation, Vice-Governor; Don Grey of Westinghouse Electric and Manufacturing Company, Secretary-Treasurer, while the board which was appointed by the Governor consists of: B. F. Clair, American Radiator-Standard Sanitary Corporation; R. W. Beard, General Electric Company; A. E. Lawrence, National Lead Company and S. R. Winterer, Armstrong Cork Company.

Although formed originally to raise the plane of advertising to architects, it has since developed into an organization that provides a better contact between architects and producers. At joint meetings, attended by architects and producers, various problems of mutual interest are discussed and since its advent in 1924, the Producers' Council has gained the absolute confidence of all architects who are familiar with its work.

Mr. Kinsland, Governor of the local council, left recently to attend the national convention of the Producers' Council which was held in conjunction with the A. I. A. convention in San Antonio, Texas. Upon his return announcement will be made of the first joint meeting of local architects with the Northern California Chapter.

RECORD YEAR

While 1930 was not a banner year for most building lines, the painting firm of D. Zelinsky & Sons, Inc., of San Francisco and Los Angeles, report that it was the banner year in their existence for contracts completed and profitable returns. "It is too early in the year to determine the outlook for 1931," said M. G. Zelinsky, "but the fact that we have on hand some of the largest painting contracts ever let on the Pacific Coast, such as the Los Angeles County General Hospital, (Acute unit) plant for the Ford Motor Company at Richmond, the Pasadena Municipal Auditorium, and several schools, apartment buildings and office buildings, would indicate another fine year for our firm. Besides the contracts enumerated we are unusually busy on the decorating of residences, a fact which is important, in that it indicates increased interest in home building."

JOHNSON HAS NEW BURNER

A banquet at Atlantic City, Sunday evening, April 12th, brought to a close the three-day Johnson pre-convention meeting which was held at the company's Philadelphia factory branch April 10th, 11th and 12th.

The meeting was attended by Johnson distributors, dealers and salesmen from all parts of the United States and Canada, and was the first meeting of its kind to be held in the history of the oil burner industry.

Each day was divided into sales and engineering sessions of vital importance to everyone attending. Special educational exhibits were installed by manufacturers producing equipment that becomes a part of a Johnson installation, and addresses were made by dealers, as well as outstanding authorities, on sales, advertising and engineering subjects.

Other equally interesting features of the meeting and exposition included an inspection tour of commercial and industrial plants located in and around Philadelphia in which Johnson oil burning equipment is being used, also the demonstrations of the new Johnson Centri' oil burner in different types of heating systems. Speaking of the new Centri' burner, C. H. Beebe, sales promotion manager said:

"This new Johnson burner is a quiet, efficient, verticle, centrifugal atomizing gravity type unit which is made in one size and two styles, catalogued as Styles GrM and GrA. The Style GrM is manually ignited, while Style GrA is automatically ignited by electric gas pilot and supplied to the dealers with automatic controls, including magnetic oil valve, oil filter, oil regulating valve, no voltage protection starting switch and special electric motor cable.

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See Page C-2928 Sweet's Catalog and Page 147 Specification Manual of the American Architect. Send for Catalog on Sash Chain.

MODERN DESIGN AND THE CLAY INDUSTRY*

By Athol McBean

THE new trend in architectural design which came with the throwing off of the classical restraints, immediately provided an opportunity for the clay products industry, but thus far full advantage has not been taken of this opportunity.

Perhaps this is not altogether the fault of the industry because many architects themselves have been backward in embracing the new styles. The consequence is that clay products have not maintained the preponderant influence to which many of us think they are entitled. Reinforced concrete and steel have been edging them out of their proper position, but it is by no means too late for them to recover lost ground.

It is beyond controversy that clay products still provide us with the best facing material and also perhaps with the best curtain wall material in connection with other structural elements.

All metal materials are of dubious value in the facing of big buildings. We still need stiffness and fireproofing, and clay products meet these demands. The cost of maintenance is another important problem. No metal that has been developed so far gives us a permanently satisfactory facing.

Certainly metal provides no opportunity for color. And where metal fails clay products succeed. Too much emphasis cannot be placed on the color possibilities of clay products. And clay products speak absolutely the final word when it comes to low maintenance cost. Herein are the elements of future success for our industry.

It is not merely a question of getting back to where we belong, but of anticipating certain trends of the future that are beginning to define themselves.

Terra cotta, in order to meet the demands of certain progressive architects, must be studied and manufactured as a tile facing. We can reduce its thickness without impairing its durability and still offer it to the architects as the ideal facing for any kind of building, including the frame structure. This is not to say, of course, that heavy ashlar terra cotta will pass out. It gives and will always give effects that are not obtainable with small terra cotta tile. But the value of the glazed facing is to be emphasized whether in small or in large pieces. Its value lies in the opportunity it presents for color and in the fact that it involves practically no maintenance cost. And its fire-resisting qualities are never to be forgotten.

Terra cotta should not be imitative. It is a material of essential integrity, and it has laws of its

*Brick and Clay Record.

own which the sympathetic architect will always observe. These "laws" of terra cotta are exceedingly broad in their scope, and they have actually been widened by the advent of the new, untrammeled architecture that is called modern. More than ever before, terra cotta can "be itself," and in skillful hands it is already yielding effects hitherto undreamed of. It has been deconventionalized. It is in a position to rise with the unchained fancy of the modern architect to new heights of beauty. Never in the past has it held such a position. If this fact is properly recognized the terra cotta of tomorrow will strengthen itself in its old strongholds and conquer fields it might have held long ago, had not the classical styles pre-empted attention.

We still make brick as it was made thousands of years ago. We have not adapted it to modern structural developments. Here is a problem that we must attack. Brick might be developed so that it could be used as a form in connection with concrete. Already a start has been made on the production of brick in large sizes. Why should it not be so manufactured that re-inforcing bars could be introduced into it and a bond created?

In Germany and Sweden the use of common brick is resulting in architecture of the finest modern kind. It is used for beauty, and it gives beauty.

THE DEMAND FOR SCHOOL BUILDINGS

Hubert C. Eicher, Director of School Buildings of the Department of Education of the State of Pennsylvania, estimates that at the present time three billion dollars is needed for new school buildings, and two hundred and fifty-one thousand additional classrooms are required in the United States to meet the enrollment. In commenting on this future problem Mr. Eicher says:

"The evolution in our educational system is bringing about a marked change in the type and design of school buildings, and I predict that the next decade will see us face to face with school building problems which today are not even considered as a possibility. There was a time when a so-called school building consisted of a certain number of classrooms of equal size. Well do we recall the day when an auditorium, gymnasium, shops, and various special rooms were not a part of the school plant, while today a high school building wherein at least some of these special features have not been incorporated could not be called a school building. The school organization would not be recognized as such if certain of these special rooms were not provided.

"The result is that as the school system of America has developed and the various educational departments have contributed new phases

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and activities to the educational program the problem of schoolhousing has become more complex. The growing use of the school building by the community presents new problems in the arrangement of rooms, corridors and entrances. The consolidated school and the vocational and junior high schools present problems which are distinct because of the varied nature of the work of each and the necessity for the proper segregation of the different departments.

"School building programs, scientifically conducted, have therefore become all-important features. The public now insists upon knowing (1) what kind of a school organization is to be housed in the new building; (2) whether the proposed accommodations guarantee a just return to pupils for the time spent in school and to the community for the money expended; (3) trends, shifts, and increase or decrease in total and pupil population over a period of years; (4) what will it cost? These factors can be determined only after a thorough and scientific study of the school plant has been made and a careful estimate presented covering both present and future needs."

LEWIS P. HOBART VISUALIZES

The architecture of San Francisco will undoubtedly undergo an almost complete new development during the next generation, adding to the attractiveness of the city as one of the most delightful places in which to work and live, according to Lewis P. Hobart, architect of San Francisco, and designer of the new Mills Tower. His observations in this connection were made in the course of an investigation of the Crocker First National Bank to project the future of San Francisco in all phases, including industrial and commercial possibilities and general civic development.

"San Francisco's unsurpassed location, with its marvelous waterfront of both bay and ocean, and with the topography of hills, should enable it to become one of the most beautiful cities in the world," said Mr. Hobart.

In the San Francisco of the future, Hobart sees: "A modern trend of high buildings; opportunities for a wonderful waterfront with several elevated landings over the Embarcadero for transcontinental and trans-Pacific airplanes; the city's hills crowned with great apartment buildings; beautiful parks and boulevards developing as the city grows and spreads down the Peninsula; and Chinatown, North Beach, Potrero and other districts each adopting its own individual and charactersitic architecture."

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MACHINE AGE PROBLEMS

Studies in technological unemployment are under way at Purdue University under the auspices of the American Engineering Council, public service body of the engineering profession.

The unemployment inquiry, dealing with the displacement of workers by machines, aims to measure the influence of science and invention on the business cycle, and to point the way to economic adjustments conforming to the conditions created by the Machine Age.

How far machinery is responsible for swelling the ranks of the idle is a problem which must be solved by a disclosure of the actual facts, engineers say. Up to now, there has been much theorizing in this field, but authoritative information, to promote the general attack on the causes of recurrent cycles of depression, is lacking.

The Purdue investigation is one of a series of activities planned by the American Engineering Council to meet "the pressing necessity for an attempt to place in balance those forces which, on the one hand, lead to excessive business activity, and, on the other, to sharp business recession."

The Council calls attention to "the need of integrating the facts and information bearing upon the balancing of the forces of consumption, production and distribution," and expresses the hope that "some competent agency will un-

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dertake this work for the purpose of indicating and promoting methods and organizations designed to bring about a controlled balance between these forces."

The business cycle was described by L. W. Wallace, executive secretary of the Council, and a former professor of Purdue, as a challenge to the intelligence, the organizing ability and the spirit of public service of the men and women of this modern era.

"The real test of their ability and leadership is not how quickly we recover from the present situation, but how promptly and thoroughly we organize to meet the next economic crisis," Mr. Wallace declared.

"The goal is not to eliminate the cycle; that is impracticable as long as human nature continues to be what it is. The effort should be to convert the highway of business into one of small humps and dips instead of peaks and valleys. To accomplish this would be a great gain because there is a vast difference between a hump and Pike's Peak; between a dip and the caverns of the Grand Canyon."

Mr. Wallace, who recently returned from a trip through the Middle West, where he addressed numerous engineering societies, reported that engineers of the country are becoming conscious of a real responsibility in the economic situation, and are determined to work out fundamental improvement.

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the country, they hold, are largely engineering in character, and demand the application of the engineering mind. Already the engineers are aiding the President's Committee on Employment and other Federal agencies.

REAL VALUE FOR MONEY

Architects are in a position to tell the public how to get real value for every dollar expended in building construction, according to E. J. Brunner in a talk before the delegates to the convention of the Michigan Society of Architects at Grand Rapids.

"It probably would surprise many people", said Mr. Brunner, "to hear that the building industry is set up in such a way that it automatically protects the client on price *providing the client unlocks the proper door of relationships with the industry.* Experienced builders, of course, know the right way—but the percentage of experienced venturers in building is relatively small, because the majority of people build but once or twice in a lifetime.

"The public is not widely schooled in the functions of the industry, and the thought is prevalent that the architect is merely a drawer of plans and specifications—an added cost to building.

"That the architect is the key to cost protection has not been widely broadcast and certainly the public is entitled to this information.

"When a man about to build commissions an architect as his first step, he sets in motion the competitions of the construction industry which men in the industry know all too well results in a very economical price these days of bargains, and disillusionment about the possibilities of inflation.

"The architect thus employed or commissioned as the agent of the owner secures several bids from contractors, all bidding on identically the same plans for the

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"Is this process carried on with good contact between the architect and the owner not conductive of getting the best price? Is it not a much surer way of obtaining such price than to rely upon comparisons of different plans from different sources?

"Why should the public not know that the architectural function extends beyond the drawing of pretty pictures, plans, and specifications? Why should the public not be informed that the architect can and will perform as the *agent* of the owner, as the one who sees the job through to the hanging of drapes if that is wanted.

"The public apprised of this function of the architect never fails to catch the significance. But the public is a great changing quantity. There must be constant reiteration of these facts which to those in the profession seem so A. B. C.

"After all, it is the A. B. C.'s that we build upon. They are vastly important and no end to the number of cases of injury to the public do we hear because the victims had not been informed that there is in the construction industry an established function 'agent of the owner,' technical expert service, if you please, available.

"That is one part of the architect's service which it would pay the public to know about.

"Out of this same function as 'agent and technical advisor' for the man who would build, the architect is very valuable in another way which the public does not seem generally to know about. He is valuable as an insurer of the *quality* which the owner would have incorporated in his building.

"While it is true that the construction industry through its competitions which are properly started by the employment of an architect does protect on price, it it not true that the industry automatically protects on quality.

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"The architect employed as agent of the owner and being in conference with the owner as his technical advisor, is in duty bound to the owner to secure the quality which he and the owner have agreed upon as being wanted.

"Suppose the architect confers with the owner and the decision has been reached by them that such and such quality and kind of interior trim or flooring is to be used. The architect utilizing his skill not only gets competitive bids on the quality wanted, but as the owner's agent will see that the owner gets what is specified and that it is built in the way specified. Without such an agent the owner is either to be advised by someone at random or to go without advice, leaving all to the mercy of someone who is not his agent for a fee, but who is doing the job to reap a profit on the job.

"When anyone proceeds to build any project, he desires protection on price and on quality. The architect can protect on both of these and at conservative cost. In fact his cost is very frequently more than saved. But the architect has never advertised these functions to the great public which approaches construction with fear and trembling, not knowing that there is a sure method of insuring price and quality protection. Is that not then a case of the architect being civically remiss?"

STATE WORK FOR OREGONIANS

The Oregon State Board of Control has selected private architects to prepare plans for four building projects and authorized superintendents of two state institutions to submit preliminary plans for improvements authorized under a $500,000 appropriation, according to word from Salem.

Knighton and Howell, of Portland, will prepare plans for a new wing at the Eastern Oregon hospital. The cost of construction is estimated at $205,000.

Claussen and Claussen, of Portland, will prepare plans for a new

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outdoor pavilion at the Eastern Oregon Tuberculosis hospital to cost $24,000, exclusive of a $9,000 extension to the dining room at the same location.

Fred A. Legge, of Salem, will prepare plans for a $50,000 cottage at the feeble-minded institution at Salem and plans for a fireproof vault for the office of the Secretary of State will be prepared by Lyle Bartholomew of Salem.

* * *

THE ANONYMITY OF ARCHITECTS

So far as memory serves, architects have been conspicuously anonymous since the beginning of time. The public has intended no slight, yet over and over again have architects received no recognition beyond that shared with bricklayers, plasterers, electricians and decorators. No one has cared; no one has so much as noticed the omission.

Now suddenly people are stirred about it, understanding that the man of first importance where a great building is concerned, the man on whose mental horizon has risen wondrously a vision of the completed whole, the man whose skill and ingenuity have surmounted obstacles undreamed of by the uninitiated, has been grossly neglected.

One day recently, Mason Ham, who conducts a column of personalities in the *Boston Herald*, remarked in print that he had seen for the first time, carved in stone, just inside the main entrance of the Boston Art Museum, the inscription, "Guy Lowell, Architect, 1909." Upon the heels of that comment has followed a general discussion of the anonymity of architects.

Other columnists took it up. Someone discovered a pertinent passage from a novel by Arnold Bennett; someone else, searching the recesses of memory, could recall only two novels which at all feature architects. It would seem that one knows right enough who wrote a book or made a statue or

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painted a picture, who designed a gown or a motorcar, perhaps even who quarried the marble which went into the Lincoln Memorial; but almost never the name of the author of the church or skyscraper or private mansion which one accepts gratefully as a contribution to his store of human beauty.

It might be worth while to invent a new sort of questionnaire: "Who designed what?" Who, for example, was the architect of the British Museum? Of the Escorial? Of the Boston State House? Even of the Empire State Building in New York City, still unfinished? It would be more amusing, far more drastic, than the game of Twenty Questions; and a pitiful few would emerge from the bout with any sense of flattering triumph. For one simply does not know about architects.—Editorial in *Christian Science Monitor*.

FATHER OF SKYSCRAPER

Leroy S. Buffington, known as the "Father of the Skyscraper", died February 16 at Minneapolis at the age of 83. Mr. Buffington is credited with conceiving the plan of tall steel framework filled in with stone. In 1882 he drew up a perspective of a 28-story structure, which in those days was scoffed at as impossible.

* * *

ARCHITECT'S CERTIFICATE

Generally speaking, a clause in a building contract is valid and enforceable by which the production of an architect's certificate is a condition precedent to payment. However, it may be waived by the owner in whose interest it is ingrafted in the contract, either by express words relieving the builder therefrom, or the waiver may be inferred from such acts, conduct, or declarations of the owners as are inconsistent with the purpose of exacting performance, says Leo. T. Parker, attorney, in the *General Building Contractor*.

For example, in Sargeant Bros. vs. Brancati, 151 Atl. 843, a con-

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tractor sued an owner for money due. The latter attempted to avoid liability on the contention that the contract contained a clause by which the contractor was not entitled to payment until the architect should issue a final certificate.

However, since the contractor proved that, although the contract contained such a provision, actually the owner had not employed an architect to supervise the construction work, the Court held the contractor entitled to full and immediate payment, stating the following important law:

"It is true that under a building contract containing a clause requiring the production of an architect's certificate as a condition precedent to payment, the production of the stipulated certificate is a condition precedent to the institution of suit for money payable upon such contract while the provision remains in force.

. . . Such a condition, however, may be waived by the owner in whose interest it is ingrafted in the contract, either by express words relieving the builder therefrom or the waiver may be inferred from such acts, conduct, or declarations of the owner as are inconsistent with the purpose of exacting performance. . . Here the evidence was that no architect was ever employed, and there was other evidence from which waiver of the provision was to be inferred."

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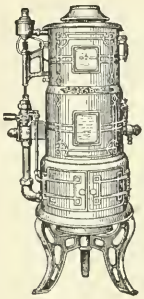

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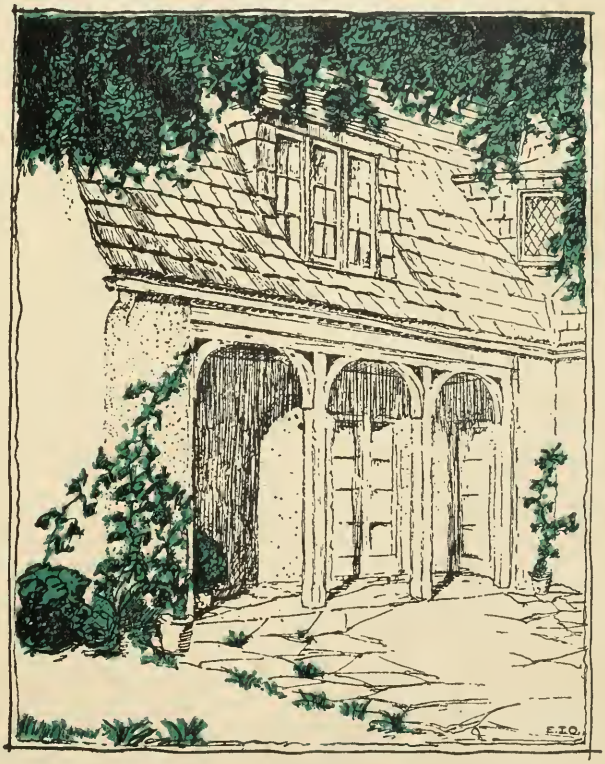

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TWO movements of unusual importance to the architectural profession were given hearty support at the recent A. I. Convention in San Antonio, Texas. One was the proposed Builders Congress, outlined briefly in the April issue of this magazine, and which, in a word, is intended to serve as a sort of clinic for the amicable adjustment of differences that crop up from time to time in the profession and building trades. The second movement, which really had its inception here in California, provides for the unification of the entire architectural profession, including draughtsmen. It is a splendid idea, and with the energetic and progressive State Association of California Architects behind it, success seems certain.

The movement has the hearty co-operation of this magazine. The time is opportune for united action. Complete unification of the various architectural organizations, representing some 30,000 members in the United States, will accomplish more in a year's time than the divided interests would be able to accomplish in ten times that period.

:: :: ::

AT the opening session of the Institute Convention, the matter of unification of the profession was presented by the Board of Directors, coming up through the report of the Committee on Constitution and By-Laws, of which Edwin Bergstrom of Los Angeles, national treasurer, is chairman. In presenting the matter, the board said it felt the Institute, in collaboration with the state societies, should work out some plan of organization which will give the unattached men in the various communities an opportunity to become members of the architectural societies in their states, and by which those state societies shall be related to the Institute in a very definite manner. The board stated that it believed the Institute could immeasurably expand its usefulness without changing the character of the Institute membership or giving up anything that it has achieved, and proposed the following resolution, which was adopted unanimously:

"*Resolved*, That the American Institute of Architects, in 64th annual convention assembled, believing that the prevailing conditions with respect to the practice of architecture and the development of state societies of architects, offers a most opportune time to collaborate with such groups and bring about a unification of the architectual profession, hereby authorizes and directs the Board of Directors of the Institute to invite such societies to collaborate with it and to formulate a plan whereby such societies can be brought into direct unified relationship with the Institute and to present at the next convention the necessary recommendations to achieve such result."

:: :: ::

WHILE no definite outline of the procedure to be followed in order to put the resolution of the Board of Directors into effect has been made, Robert H. Orr states that the following tentative suggestions are under consideration:

(1) State associations to include all architects' chapters, societies, clubs and draftsmen on graduated membership.

(2) Status of chapters to remain unchanged.

(3) Functions of chapters under American Institute of Architects not to be duplicated by state organizations.

(4) State associations to carry on legislation, professional betterment and control of architectural work being done by political subdivisions.

(5) State associations to act as agencies for collection of dues, remitting to all other organizations and to American Institute.

(6) District superintendent over regional districts, as provided by A. I. A., to be delegate at large.

(7) Representation to A. I. A. to be by delegates from state associations.

UNQUESTIONABLY there is good reason for a State Association or Society of Architects to exist. There seems to be a well-defined work that this and allied organizations can do which is not inimical to the best interest of the American Institute of Architects. For example:

Sponsoring legislation.

Seeing that the laws are obeyed.

Curbing the illegitimate designer and builder.

For such activities the State Association or Society seems admirably adopted. In order to do these things it is absolutely necessary to gather within the organization all architects. They should be members, regardless of their affiliation with American Institute of Architects and regardless of ability to give support. Because of this inclusiveness, unity and singleness of purpose, state organizations have a strength that is known and recognized by those in control of legislation and law enforcement. Some of these associations, after achieving success in the legislation field, have continued their organization and taken on other activities, achieving other successes and gaining in favor with the younger generation of architests because of the direct benefits. Now there is an insistent urge that state organizations become even more aggressive, but wisdom should be part of valor. If we are to improve our profession in this way it should be along well-defined lines with a unified constructive policy.

The fact that the Institute is thoroughly in accord with the activities of the associations is sufficient guarantee of its usefulness.

It is in this kind of an organization that the young man finds, not his idealism—for that has been partly forgotten—but what he considers his chance to live and let live. An organization of this kind may be so embracing in all of its ramifications that it would seem to fulfill all the desires because it protects and tries to regulate conditions for the architect's immediate needs.

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CALIFORNIA COUNTRY HOMES

by MARC N. GOODNOW

GRADUAL crowding of California cities within recent years has been responsible for two rather notable developments of an architectural nature, for which every one can be thankful: the building of homes among gorgeous green hills, and the dotting of ranches and deserts with new types of houses, more comfortable, more appropriate and more livable than any that have heretofore graced our countryside. Verily, it is an ill wind that blows no good.

In some communities of the state there has been a veritable trek toward the open spaces, hills, canyons, ocean views, fertile valleys and even endless but fascinating wastes of sand and mesquite. The growing demand for more freedom of movement, more of untrammeled joy in the great out-of-doors, has affected all classes of people as well as many phases of architectural design. While it is among those of means that the architectural pace has been set, those of lesser means have been influenced in their movements and tastes.

As city dwellers of discriminating taste have become country dwellers—for one reason or another—they have naturally adapted those tastes to farm and ranch life, with the result that a better type of architecture is to be seen in sharp relief in the midst of citrus groves, orchards, vineyards and even sun-baked wastes of desert land. The old farm house of earlier days, of course, may still dominate the scene in the more remote sections of the state, but the fact of its dominance does not in any way discount or eliminate the quite evident fact that a regeneration of the country house is under way.

But while the city man is going into the suburban hills and onto the farm to build his home under architectural tutelage, the farm dweller himself is beginning to absorb certain architectural influences and is adapting them to his mode of life in the groves, orchards and vineyards of his ranch. For the California farmer or rancher is not altogether the same person that he was ten or fifteen years ago. Through such instruments as the automobile, the telephone, the daily newspaper, the electric appliance and the radio—even the airplane—he has undergone a marked change; the ease and economy of transportation, together with modern inter-communication, have brought him more and more into contact with the outside world, including city life and city architecture; his taste has improved with the increase of his needs and his desire to satisfy them.

He has, indeed, become more of a business man; not only does he watch the markets closely and pay attention to the management of his acres, but he frequently provides his house with an office in which to transact the affairs of the day with pur-

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He has, indeed, become more of a business man; not only does he watch the markets closely and pay attention to the management of his acres, but he frequently provides his house with an office in which to transact the affairs of the day with pur-

chaser or employee. Thus the newer attitude toward his business affects the planning and designing of his house, just as the possession of modern machinery determines the number and types of his utility or outbuildings.

Wherefore, the architect out of touch with the farm and ranch of his boyhood days, will now find a somewhat new rural atmosphere based on new rural needs, conceptions and standards. It may even surprise him to find that the architectural idea has circled far away from congested centers and metropolitan haunts, having taken root in surroundings where one would least expect to find it.

Within very recent years there have grown up in California many fine ranch homes that stand as splendid examples both of our native architecture and of downright good planning to fit the needs of their occupants. Some of them combine in a most delightful way the advantages of modern life with the rural atmosphere of a former day and suggest that ease and refinement of manner so intimately associated with culture.

In the ranch house, of course, the design and plan are strongly influenced not only by the setting and the ground space, but by the very character of rural life itself. Here there is ample room for a rambling structure that may take any convenient form or shape and still be an appropriate expression of the daily round of existence going on within it.

HOUSE OF PARLEY JOHNSON, DOWNEY, CALIFORNIA
Roland E. Coate, Architect

But the well planned ranch house will be different in arrangement from the house on an acre or in the city's suburbs, for if the business of the ranch is to be properly carried on it will require a study or office in which employees or others on business errands may be received. Whether this study will occupy a corner of the house or

a wing by itself, or be housed in separate quarters, will depend upon the preference of the owner rather than upon any limitation imposed by the site.

In the house of Major Leigh French at Las Turas, Ventura county, for example, a central hallway acts as a division between the domestic and business portions of the house. The study or office is in an end or wing by itself and is even provided with an adjoining bedroom and bath for use of master or guests.

Practically every room in this house by John Byers has a view of both the front and rear yards. The dining room has been set back to provide windows at one end of the living room and to allow for an entrance onto a side terrace for outdoor dining purposes, if desired. Overlooking the terrace is a third bedroom, with bath, as servants' quarters. The thick walls of the house, resembling adobe, insure proper insulation against extremes of heat and cold; the pitch of the roof which shows in the ceiling of the living room, also increases the sense of spaciousness and coolness.

Situation, topography and outlook are three factors which have much to do with the success of the farm or ranch house. Not all such houses have those vistas to be found on the hillside or along the ocean. Some, indeed, are hemmed in by the products of the soil — citrus groves, orchards and vineyards. The site is flat, perhaps even a little low; the occupants of the house have almost no outlook beyond their own acres— they must find their view within a very limited area, surrounded by trees.

HOUSE OF PARLEY JOHNSON, DOWNEY, CALIFORNIA
Roland E. Coate, Architect

Such a problem confronted Roland E. Coate, Los Angeles, in designing the farm house for James K. Tweedy at Downey, California. Because of the topography of the surrounding country there was little to be gained by building a two-story house.

As a result the structure became what one might call "self-centered"—but delightful on that account. It needs no outside attractions to make it charming, comfortable and satisfying since all those qualities are contained within its four walls and their immediate exterior surroundings.

This house is situated in the midst of an orange grove and is purposely built around a delightful paved patio, completely screened and with a deep projection of roof, which forms a large sheltered living room and in summer becomes the natural center of family life. Very properly, every room in the house either looks or opens upon this patio. Mexican tiles contribute a colorful note from wall panels, wall benches and central pool.

While the portions of the floor immediately underneath the roof and eaves of the four-sided arcade are laid with padre tile cemented together, that square portion of the patio entirely in the open is paved with individual concrete slabs with openings between sufficient to permit of proper drainage. In addition, a concrete drain runs around the sides of the square between the tile flooring and the slab pavement.

The fountain in the center is enclosed with a tile coping of pure white, while the face of the enclosure is set with polychrome tiles which harmonize with the colored flower pots above and around it. A colored tile panel is set in the wall facing the living room, and just beneath is a tile covered bench. Contrasts between tiles and the natural green of palms, ferns, shrubs and potted plants about the pillars and fountain make an altogether charming picture.

The business of operating the grove is carried on by the owner in his private office

Photo by Freeman

RANCH HOUSE OF GORDON S. ARMSBY, CARMEL VALLEY, CALIFORNIA
Clarence A. Tantau, Architect

Photo by Freeman

RANCH HOUSE OF GORDON S. ARMSBY, CARMEL VALLEY, CALIFORNIA
CLARENCE A. TANTAU, ARCHITECT

at a secluded corner of the house adjoining the living room and having its own private entrance from the grounds. The location of and necessity for this room hardly need comment.

Whatever may be the individual problem of the architect who plans a country house, there will be certain problems of more or less common experience, such as those of air and water drainage, sewage, soil and roadways.

RANCH HOUSE FOR JAMES K. TWEEDY, DOWNEY, CALIFORNIA
Roland E. Coate, Architect

Because of air and view, the country home finds its best location usually upon a sightly eminence. If this eminence is a hillside, as so often happens in California, the matter of proper engineering is of prime importance.

The first consideration is, of course, to secure the proper footings; but of hardly less importance is the advantage of stringing the house out along the contours rather than building it up and down hill on a steep site. Engineering naturally enters into both of these possibilities.

The soil on the site will have much to do with the success of the project. If the hillside is adobe it may be necessary to carry the footings down from four to six feet or more into the bank to get through this soil, which is notoriously treacherous.

If there is a stratified formation and the strata are roughly parallel with the surface, the footings, unless carried very deep, may cause the strata to slide. If they are horizontal or if their slope opposes the slope of the hill, they then provide an absolutely safe footing. It is often possible by examining the cuts made for roads in the neighborhood to get a general idea of how the hill is made up, and between two equally good sites the choice should favor the one providing a safe and economical foundation for the house.

A number of California country homes and ranch houses are constructed of adobe taken from the building site. In few of these instances are the houses built on a hillside. But whether on a level site or in the hills, the better type of adobe ranch or country home is always reinforced. The

PATIO, RANCH HOUSE OF JAMES K. TWEEDY, DOWNEY, CALIFORNIA
ROLAND E. COATE, ARCHITECT

house of Mr. Roy A. Baker at Saugus, California, was constructed of adobe bricks made with a special groove and flange, which allowed for both reinforcing bars and overlapping to give an effective bond. Types of two-story houses designed by John Byers have no reinforcing except for a reinforced concrete girder laid all around the building at the second story line. (This subject was discussed under the title "Ancient Adobe for Modern Homes" in the November, 1929, issue of THE ARCHITECT AND ENGINEER.)

Photo by Chas. P. Roberts

RANCH HOUSE FOR KEMPER CAMPBELL, VICTORVILLE, CALIFORNIA
John Byers, Architect

Sewer and water drainage likewise are subjects which must receive early consideration in country house planning, for upon the proper handling of these matters depends not only health but even the security of foundations. Whether the house is on level ground or on the hillside, there is need to drain surplus water away from the footings as well as to preserve a sufficient quantity to subirrigate the garden or lawn.

In the absence of any sewer system connections, there must be either a septic tank or a cesspool. The former may consist of from two to eight or ten chambers, each connected with the other. They should be built of reinforced concrete, with the house service pipe connected at one end and the effluent pipe at the other end joined with a system of drain tile through which the effluent percolates into the soil. The excavations, of course, are less than in the case of the cesspool. On the hillside the effluent may be conducted under lawns or other ground cover in a way to subirrigate them.

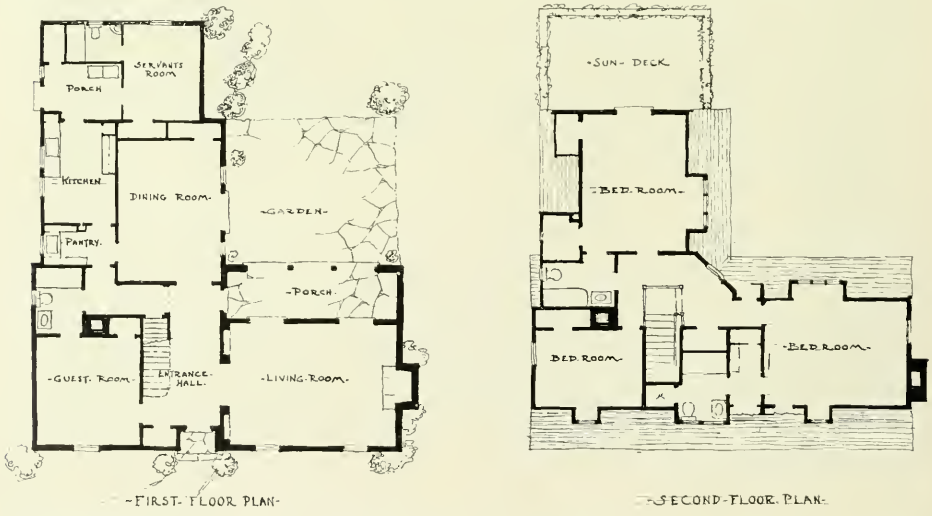
Where the incline of the slope is beyond a certain point there will be the tendency for irrigating water to be wasted or to erode carefully built-up terraces. To offset these effects, what is commonly known as the bench terrace has come to be widely used, particularly where the slope of the land is as steep as 24 to 45 degrees. Some

Photo by Chas. Roberts

RANCH HOUSE FOR KEMPER CAMPBELL, VICTORVILLE, CALIFORNIA
JOHN BYERS, ARCHITECT

Photo by Crandall

RESIDENCE OF M. L. CRIMMINS, ATHERTON, CALIFORNIA
Erle J. Osborne, Architect



PLANS, RESIDENCE OF M. L. CRIMMINS, ATHERTON, CALIFORNIA
Erle J. Osborne, Architect

Photo by Crandall

RESIDENCE OF M. L. CRIMMINS, ATHERTON, CALIFORNIA
ERLE J. OSBORNE, ARCHITECT

Cost and Construction Data

RESIDENCE FOR M. L. CRIMMINS, ATHERTON, CALIF.

Erle J. Osborne, Architect

Project: Eight rooms and three bathrooms, pantry, kitchen porch, oil burning hot air furnace, and basement storage space.

Frame: Wood.

Exterior: Cement plaster; exterior wood work stained a weathered brown, with sash and blinds painted a light green.

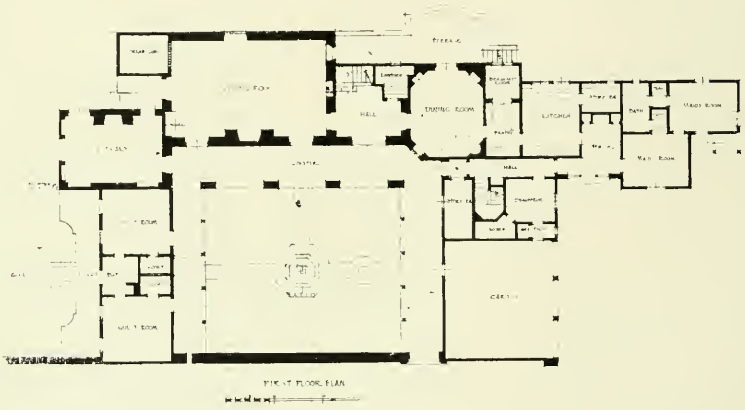
Roof: Heavy wood shakes with terra cotta edge.

Interior Finish: Walls in living room and entrance hall of stucco of light buff color with woodwork sand-blasted and stained a warm brown. Other rooms are papered or painted.

Cost: 40c per cubic foot (approximately).

Photo by E. M. Pratt and V. Baker

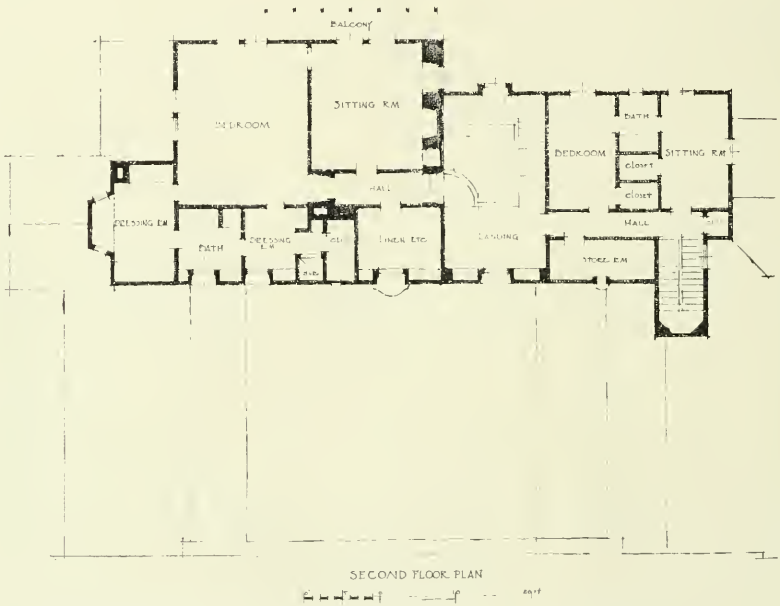
LIBRARY WING AND GUEST PATIO, RESIDENCE OF MARK DANIELS
MARK DANIELS, ARCHITECT



PLAN, RESIDENCE OF MARK DANIELS, LOS ANGELES
MARK DANIELS, ARCHITECT

Photo by E. M. Pratt and V. Baker

ENTRANCE FACADE, RESIDENCE OF MARK DANIELS, LOS ANGELES
MARK DANIELS, ARCHITECT



PLAN, RESIDENCE OF MARK DANIELS, LOS ANGELES
MARK DANIELS, ARCHITECT

HOUSE OF PARLEY JOHNSON, DOWNEY, CALIFORNIA
ROLAND E. COATE, ARCHITECT

PATIO, RESIDENCE OF PAUL L. VEEDER, PEBBLE BEACH, CALIFORNIA
CLARENCE A. TANTAU, ARCHITECT

RESIDENCE OF PAUL L. VEEDER, PEBBLE BEACH, CALIFORNIA
CLARENCE A. TANTAU, ARCHITECT

Photo by Freeman

HOUSE OF PAUL L. VEEDER, PEBBLE BEACH, CALIFORNIA
Clarence A. Tantau, Architect

1930 Honor Award

HOUSE FOR MRS. HANSON, PALOS VERDES, CALIFORNIA
Webber and Spaulding, Architects

Photo by McCullagh

RESIDENCE OF GEORGE D. BLOOD, BERKELEY, CALIFORNIA
Walter H. Ratcliff, Jr., Architect

PLANS, RESIDENCE OF GEORGE D. BLOOD, BERKELEY, CALIFORNIA
Walter H. Ratcliff, Jr., Architect

Photo by McCullagh

RESIDENCE OF GEORGE D. BLOOD, BERKELEY
WALTER H. RATCLIFF, JR., ARCHITECT

Photo by McCullagh

RESIDENCE OF GEORGE D. BLOOD, BERKELEY
WALTER H. RATCLIFF, JR., ARCHITECT

homesites in the Hollywood foothills have a slope of nearly 60 degrees, which seldom lends itself to satisfactory landscaping.

Perhaps the best type of bench terrace is made of a concrete wall on the lower side, faced with flat sandstone or limestone split into thin layers and covered with cement plaster, built up along the contour lines. In the Montecito Hills, near Santa Barbara, many beautiful gardens have been developed on these bench terraces. Frequently there is a stone coping along the top of the retaining walls, surmounted by brightly colored flower pots; low growing shrubs hide the face of the walls. Their merit is distinctly architectural, serving to create a delightful atmosphere of formality or rusticity, as the house may require.

The spacious site that accompanies the country or ranch house enables both the architect and the owner to plan a setting for the house and garage or other detached buildings that produces a beautiful ensemble. In some instances, one or more guest houses are included in the layout with charming utility and effect.

Altogether, the California countryside, in whatever section, offers unlimited possibilities of an architectural and landscaping nature. And now that this important movement in the rural districts has been gotten under way it is natural to expect that many other fine examples of country house architecture will result. In the hands of craftsmen who have made a special study of the needs of rural domestic life one can be reasonably sure that such homes will one day compare favorably with, if they do not quite equal, the homes of the crowded cities.

HALL, RESIDENCE OF GEORGE D. BLOOD, BERKELEY, CALIFORNIA

LIVING ROOM, RESIDENCE OF GEORGE D. BLOOD, BERKELEY, CALIFORNIA

SKETCH FOR HOUSE IN PALO ALTO, CALIFORNIA
John K. Branner, Architect

THE AMERICAN DWELLING HOUSE

by LEWIS MUMFORD

THE old-fashioned house was usually designed to mark the status of the owner in society. The modern dwelling-house differs from it in being primarily a biological institution.

First of all the modern house is a building equipped to serve the normal functions of nutrition and repair, reproduction, and the elemental care of the young. Once we accept this notion that biological functions create the *norm* of the house, problems of design once based upon caprice must be treated within well-defined limits. The first question of all is orientation for sunlight and ventilation. A maximum amount of sunlight must enter the kitchen, the living-room, and the children's nursery. Genuine sun-porches are still mythical; yet ten minutes' exposure naked to sunlight is probably worth a whole day's exposure with clothes on; and the architect who does not incorporate a private sun-porch in his plan need not pride himself upon his cleverness in the kitchen.

Exposure to the sun is a vital matter, particularly to children, but in our torrid summers the problem is to secure adequate circulation of air. Artificial refrigeration, such as is now provided in theaters, is a very doubtful expedient; when one leaves cooled quarters to return to the superheated air of an August day, the result is not merely disgusting but dangerous. Summer ventilation must depend upon two things: the provision of gentle draughts; and the provision of shade trees which absorb the heat without re-radiating it as stone and asphalt do. The paving about

Condensed from The American Mercury April, 1930

the house should be reduced to the lowest possible point.

If the biological house is first of all a sunhouse, it is at the same time a playhouse. Without facilities for play, without floors that can be danced upon, without a room for children's games, without an external playground for ball and gymnastics, the house would be as incomplete as a furnace without a flue.

This need for play affects both the inner design and the exterior relationships. Considered from within, the modern house, no matter how small, must not be chopped up into small compartments, not one of which is large enough to permit more than the original family to gather in and move about. The cellar also must be retained: mid the order, compactness, and neatness of the modern house at least one room should be sacred to the spirit of anarchy; one place should remain where disorder and the desire to accumulate useless mementos will carry neither stigma nor burden. The problem of outdoor playing space can hardly be solved by one house alone. It will be necessary to combine portions of land and create common areas under certain provisions of common care. This again means community planning, and this should be extended to the point of seeing that the children's daily walk to school is saved from the nightmare of automobile accidents.

Let us now consider the interior. How shall we decorate the modern house? How shall we keep it clean?

As to keeping it clean, the modern hospital gives us an answer. First of all, the floor must be made of compact, resilient material that can either be washed or waxed—well-laid hardwood floors, cork strips, linoleum, and in warmer climates brick or tile. What place has a rug on the floor? The rug performs a function in only two places; one is the living-room, where as a sort of picture on the floor it provides a spot on which to focus one's gaze, either when alone or when one does not wish to look directly into the faces of one's companions; the other place is in the bedroom, where before one finds one's slippers, the rug breaks the chill of leaving a warm bed.

We now approach the walls, and we do this with trepidation. At whatever cost, these walls should be soundproof and fireproof. If they are plastered, then we must walk very carefully indeed. The plasterer and the architect, with exquisite ingenuity, have lately resurrected a whole host of smears and scratches and blobs to be executed in stucco or plastic paint; and dust and dirt and the fine fabrics of women's clothes being what they are, we must use them with great discrimination. A close-textured surface and a dull finish are the desiderata of a good wall: reflection without high lights. This we must achieve as best we may—wood panels, plaster and paint, or possibly washable wall paper.

The design of furniture would benefit greatly by establishing rigorous standards of labor and hygiene. Automatically a good part of "period" furniture, designed when servant labor was cheap, would disappear, and our manufacturers would have to relv upon fine materials and adaptation instead of upon tricks and fake sylicisms. Finishes that scratch or flake easily, metal that must be polished frequently, laminations or inlays that crack at the first dessication of steam heating—all these things must be excluded from modern decoration.

Because we cannot afford large houses, we must find a way of expanding our rooms by making every available room perform more than one function. Instead of two small rooms, each of which remains idle 50 per cent of the day, let us have one large room that works both day and night; and in order to take advantage of this combination, let every fixture in the room be as flexible as possible.

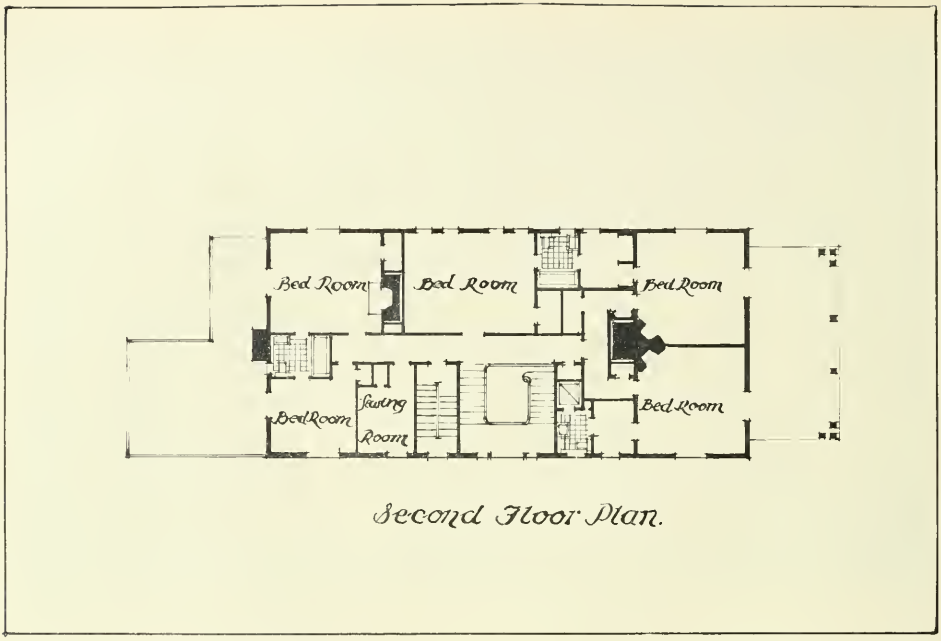
For instance, if a bedroom contains a prominent wardrobe, or a dining-room contains a china closet, the character of the room is at once established, and there is no possibility of turning it to more than one function without obviously resorting to makeshift. Instead of permitting a dresser

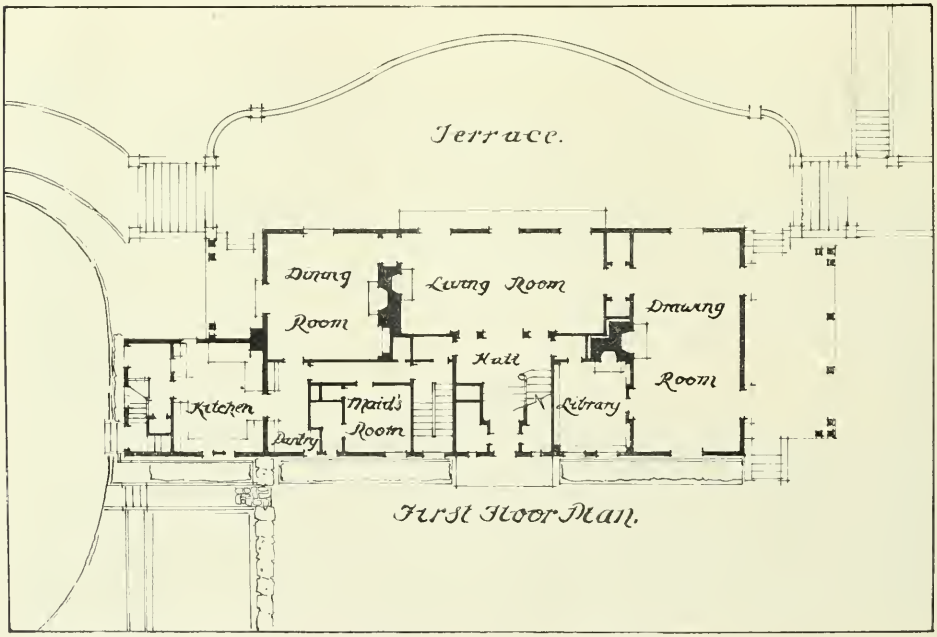
Photo by Ansel E. Adams

RESIDENCE OF DAVID H. WALKER, SAN RAFAEL, CALIFORNIA
Eldridge T. Spencer, Architect

Photo by Ansel E. Adams

RESIDENCE OF DAVID H. WALKER, SAN RAFAEL, CALIFORNIA
Eldridge T. Spencer, Architect





PLANS, RESIDENCE OF DAVID H. WALKER, SAN RAFAEL, CALIFORNIA
Eldridge T. Spencer, Architect

Photo by Ansel E. Adams

DETAIL OF ENTRANCE, RESIDENCE OF DAVID H. WALKER
ELDRIDGE T. SPENCER, ARCHITECT

RESIDENCE OF HARRY WOLTER, PALO ALTO, CALIFORNIA
John K. Branner, Architect

to bulk out in a dressing-room, the modern architect should arrange a set of drawers in a closet: not merely does this get it out of the way, but it makes the dresser more dust-proof. This principle is capable of being pushed much further. With the aid of sliding doors, a whole wall may be turned into a closet, neatly embracing a chest of drawers, dressing-table, and a clothes-rack.

By sacrificing 30 inches in the depth of a room, all the utilities can be contained in a dust-proof closet. Our ingenuity has scarcely begun to work here. We have, of course, devised a bed that folds into a closet but of all possible objects to stow away, a bed is the poorest candidate. For a well-constructed daybed is capable of performing 24-hour service; and to hide it all day is the height of uneconomic furnishing, and wholly unwarranted.

I have dealt with these things as if I were ignorant of the fact that a home must be lovable and attractive as well as neat and efficient. Is there to be no decoration? In the modern house, I believe, the eye comes for the first time into its own. The old-fashioned house smothered true decoration. Through the wide windows of the modern house, we should see the garden. Flowers should be brought indoors to gleam vividly against the bare walls; or if not flowers, then pictures which will no longer be mistreated as spots on the walls.

The chief forms of decoration in the modern house will be living things: flowers, pictures, people. Here is a style of interior decoration that perpetually renews itself. For the modern house is built not for show but for living; and the beauty it seeks to create is inseparable from the personalities that it harbors.

Photo by Jessie T. Beals

COTTAGE ON ESTATE OF WILLIAM R. DICKINSON, SANTA BARBARA
Reginald D. Johnson, Architect

DESIGN OF SANTA BARBARA COTTAGE WINS GOLD MEDAL FOR ARCHITECT

THE best one-story home built in America in 1929 was a bungalow on the estate of William R. Dickinson at Hope Ranch, Santa Barbara, designed by Reginald D. Johnson, architect of Los Angeles, who, it is announced by the American Institute of Architects, has been awarded the gold medal in the 1930 small home architectural competition conducted by Better Homes in America.

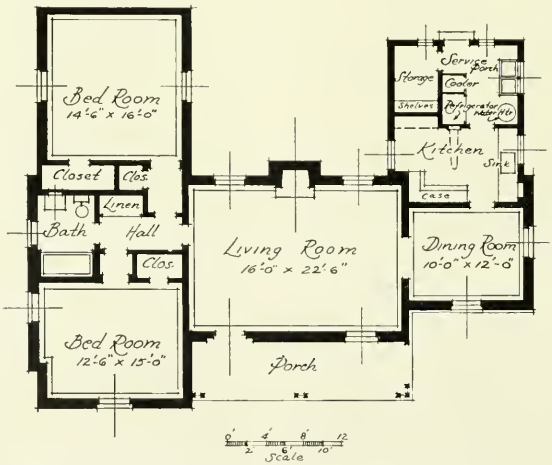
The prize-winning house, according to the Institute's jury of award, of which Frederick L. Ackerman of New York is chairman, is of an architectural type that readily lends itself to a wide geographical application. It is described as "extremely simple in character, charming in detail, and an excellent piece of design in harmony with a most fortunate setting."

Honorable mention in the one-story class went to H. Roy Kelley of Los Angeles for a home at Palos Verdes, to Roland E. Coate of Los Angeles for a home at Leimert Park, and to Donald D. McMurray of Pasadena.

Following is a memorandum of specific

Gold Medal Award

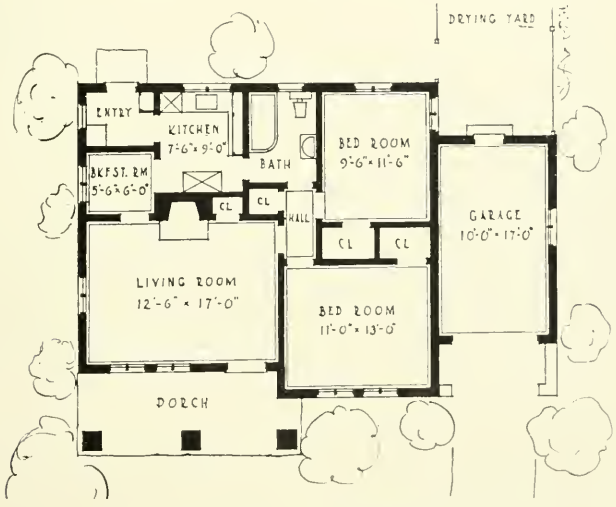
COTTAGE ON ESTATE OF WILLIAM R. DICKINSON, SANTA BARBARA
Reginald D. Johnson, Architect



PLAN, COTTAGE ON ESTATE OF W. R. DICKINSON, SANTA BARBARA
Reginald D. Johnson, Architect

Honor Award

SMALL HOUSE, PALOS VERDES ESTATES, CALIFORNIA
H. Roy Kelley, Architect



PLAN, SMALL HOUSE, PALOS VERDES ESTATES
H. Roy Kelley, Architect

conditions which governed the entries:

(1) The awards are to be made to practicing architects for the best design submitted in each of three types of houses—three medals in all.

(a) One story house
Storage space but no living accommodation may occur in roof space.

(b) Story and a half house
Living accommodations partly in a second story which is actually a "half story".

(c) Two story house

(2) *Size of house.* The awards are aimed to stimulate interest in the really small house. To this end the actual cube of the house, above the level of the first floor, shall not be greater than 24,000 cu. ft. Open porches estimated at ½ cube.

(3) *Documents to be submitted.* Floor plans, blueprints or otherwise, showing first floor, and second floor if it has living accommodations. Two elevations. One or two photographs of exterior, preferably two. Two photographs (but not more than two) of interior may be submitted if desired, but the award is to be based upon the design of the structure, not on its furnishings, and interior photographs, if submitted, should be selected with this in mind.

(4) *Date of construction.* This award is intended as an annual award. Houses entered for the 1930 award shall be those the construction of which was finally completed during 1929. Designs of houses which have been submitted in any given year cannot be resubmitted to the committee in later years.

(5) *Shipment of exhibits.* Exhibits shall be shipped addressed to Better Homes in America, c/o the American Institute of Architects, 1741 New York Ave., Washington, D. C., so as to be received not later than December 1, 1930. They will be handled as carefully as possible but must be sent at the risk of the sender. If any value is placed upon them by the sender he should take such steps as he sees fit to insure against their loss.

Better Homes in America shall have right to publish illustrations of designs awarded medals, and such other designs submitted as may be deemed desirable.

Exhibits will be returned to exhibitors at the expense of Better Homes in America.

(6) *Jury.* The awards will be made by a jury of five architects appointed by the President of the American Institute of Architects. The awards will be made and announced about January 1st, 1931, or as soon thereafter as practicable.

The jury is not required to make any or all of the awards should there be no houses submitted which in its opinion deserve a medal. In addition to the medals, however, the committee may also grant honorable mentions to designs which are deemed worthy.

Prize winning designs will be published and designs winning honorable mentions will also be published at the discretion of Better Homes in America. Any publication of the designs which are awarded medals or honorable mention will be copyrighted and due prominence will be given to the name and address of the designer and with the statement that the design is his private property.

A similar competition is being sponsored for 1931 by Better Homes in America, of which Dr. Ray Lyman Wilbur is president, the closing date being December 1. Architects may submit photographs and plans of houses the cubic contents of which do not exceed 24,000 cubic feet for the story and the story-and-a-half classes, and 26,000 cubic feet for the two-story class. Houses competing must have been erected between the years 1926 and 1930 inclusive.

MODERN MATERIALS AND THE AMERICAN HOUSE

by WELLS BENNETT, Architect

CONSERVATISM in design seems to reach its farthest north in the American residence architect; even the church specialist cannot surpass him. He makes few ventures in new forms and is equally skittish about new materials. Questioned, he will plausibly reply that he cannot assume responsibility for untested novelties. Probably it would be nearer the truth to admit that between the client's and his own financial necessities he cannot hope to get through a job with either money or energy left for investigation of materials themselves or their integration with design. The field of tests is left to the manufacturer and the engineer.

In that combined task and pleasure that constitutes designing a house the architect likes to think that he is creating in terms of form and material. In general this composition has been an old refrain and, though new stylistic forms have slowly penetrated from abroad, though they are featured in our magazines and are winning through in commercial architecture, there is thus far little sign of new life in residence work. Sadly enough, the modern style in American domestic architecture may come through the manufacturer, for forthcoming materials will make more pleasant, more practical houses, and the national fetishes of comfort and efficiency will push aside the most sentimental conservatism. It is interesting to look ahead at the possible use of materials and techniques which even now are already at hand.

Of the comporeal body of the house with its structural and decorative elements, some parts are of stock forms such as structural steel, studding and brick; others are made to detail, as cut stone and millwork. The over orderly, mechanistic mind urges us to use more and more of factory-produced, standardized shapes with less and less variety even in these; while the temperamental soul clings with desperate affection to hand-worked detail in traditional design, to the full-sizing of profiles which will differ hardly by a hair from those cut by excellent stock knives. It seems that here, urged to the extreme in standardization by the manufacturer and the client's pocketbook, and pulled just as strongly the other way by artistic feeling and the desire to express himself, the residence architect has lost his perspective. Those who design the great residences with care for cost are especially befuddled, apparently mistaking a gold-plated archaism for genuine design. New materials are not of their world. But whether the client be rich or poor, why do we have to accept $2\frac{1}{2}''$ x $3\frac{3}{4}''$ x $8''$ as the golden unit of burnt clay wall veneer, and why does the designer think it necessary to treat plaster beams or metal radiator enclosures with a finish as perfect as that of mahogany.

Structural house framing with light steel members has been tentatively offered and can be counted on to improve with use. It will probably not develop greatly as long as the English, Colonial, and other historic styles persist. For them wood and masonry are familiar and well enough suited. For the house new construction waits on modern design.

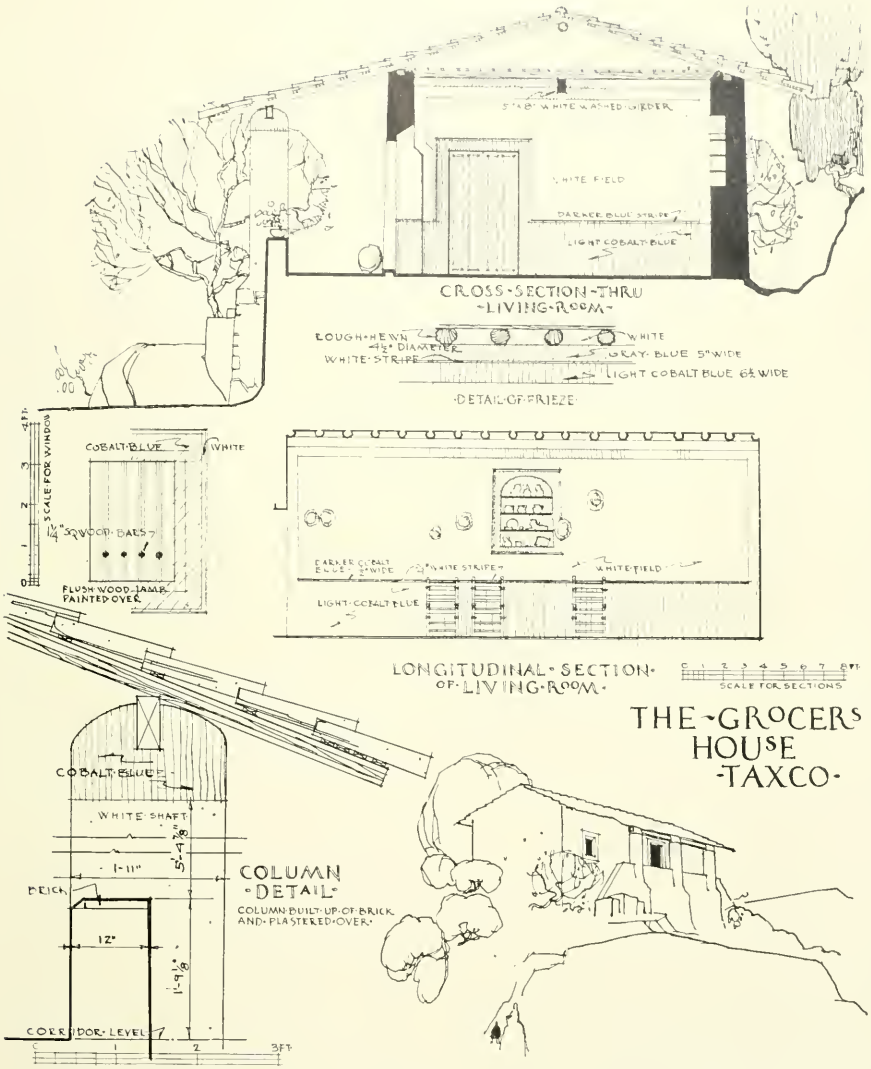
DETAIL, THE GROCER'S HOUSE, TAXCO, MEXICO
Door and window trim and column caps are flat painted bands of cobalt blue. Adobe walls on masonry foundation several feet above ground.

THE GROCER'S HOUSE, TAXCO, MEXICO
Side wall of living room. Decorated only with flat painted bands. Native chairs are green with gold painted turnings, red knobs, canary yellow painted designs and rush seats.

Granting a light, rigid frame the progressive designer may ponder exterior materials. Solid masonry is indefensible either for permanence or warmth and yet one wants a surface impervious to weather. Burnt clay, but not the *small* brick unit, would seem a solution. What is wanted are larger units, easily attached to a light structural frame as a frank veneer, units that may be well interlocked or bedded in cement, and rigidly anchored to a frame which does not shrink or swell. Wood shingles and clapboards and indeed, slate shingles, archaic survivals in an age that can make a one-piece wall or roof, would go by the board under this demand. Tile and slate might serve with adequate efficiency if made in better shapes and set in elastic cement on better planned roofs.

At this point the hopeful designer must expect the conventional outcry against loss of "scale" and "texture." Such objections are mainly the despairing groans of mentally indolent designers who have abandoned the study of pure proportion and choice detail for a fussy frosting of all visible surfaces. These forsake even their own gods, the Colonials whose clapboard walls were sometimes austere indeed, and the houses of merrie England where a considerable display of plain red brick wall was not thought heinous. Certainly these objections come oddly from a people who tolerantly accept the Spanish style with its large unadorned wall planes and limited areas of rich detail. For that matter metal and terra cotta permit the enrichment of an entrance, a bay or a cornice, and terra cotta wall slabs or a metal roof can be made with all the surface pattern desired, as witness the walls of Mr. Wright's Millard House at Pasadena. Marble and stone veneer slabs present themselves like those used — perhaps rather frigidly — by Otto Wagner twenty-five years ago in Vienna.

Unit metal windows are already familiar and, better built, they should be the accepted thing in modern design. Improvements in operation, perhaps the addition of an integral sill like the separate metal sill just offered by the aluminum people would be reasonable developments. The accept-



MEASURED DRAWINGS, THE GROCER'S HOUSE, TAXCO, STATE OF GUERRERO
REPRODUCED BY SPECIAL PERMISSION FROM "MEXICAN HOUSES"

ance of tempered air to the extent of non-opening windows seems unlikely of immediate use in private houses.

For the inside of the frame, insulation is fast making its place and clients are easily sold on its blessings. Cork, fibres and compositions insist on the architect's consideration and, combining low temperature conductivity with dead air space, indicate the logic of outside veneers. Wood has been regarded as doomed, and it may indeed be losing ground as a building material, but it still has many prosperous years ahead. Where it can be had cheaply and where cheapness is a requisite it should be used and deserves the best thought of the designer. The architect desiring to escape from the difficulties of shingles and clapboards may hope for better wood preservatives as he hopes for more impervious stucco. With the use of younger timber stock, manufactured pressed products from wood may take any form desired, and because of increased density, escape the great objections of shrinkage and swelling.

For inside walls we may see an end to the time-consuming, moisture-laden devastations of the plasterer. With steel frame, tightly set insulation, and the new finishes, cork, fibre, Bakelite, glass, metal and fabrics, varied surfaces and wall textures will be available with little plastering and less mill work. Wood finish will be used from choice, perhaps, but not from necessity. Floors with monolithic, elastic, impervious, easily kept surfaces are now beyond the experimental stage and, once convinced that they are pleasing in color and richness, Mrs. Client will be glad to adopt them.

Where is the architect going to have his accustomed fun with such toothsome bits of detail as plaster cornices, carved mantel-pieces, and elegant paneling? As a matter of fact he can enjoy himself more than ever. Aluminum, faience and glass await his design ingenuity. The old-timers, wood and stone are there, too, and he can insist on hand carving, but he will be more consistent if he makes the machine do his bidding, and he will have adventures in form, in texture and in color such as he has not met in the rounds of the historic styles. Instead of accepting machine-made brick and contenting themselves with a little home-cooked frosting over it, let's question the whole field of building materials and demand that the machine make and shape them to our order.

Architects of commercial buildings are already awake to new materials as well as to modern design. To be sure, here novelty and smartness have advertising value, but when you see these buildings you have to admit, in most of them, a compelling logic and an artistic worth. Sound use of modern materials will come more quickly for the architects and more safely for their clients if open-mindedness can be aided by research. The engineer tests wood, steel, concrete, the fabric of his design; the architect might probably do research on his peculiar problems with unfamiliar materials. Not only the substances themselves but forms of fabrication and assembly, machining to detail, patina and coloring, all are wide-open fields. The individual architect has neither time nor money for elaborate independent research but the profession might well back laboratories with equipment and trained investigators. Perhaps these men collaborating with the practitioner could suggest better building materials than any yet in sight.

MODERN HOUSE DESIGN

By John E. Dinwiddie

APROPOS a recent discussion in *Pencil Points* on modern house design, John E. Dinwiddie, architect, of Berkeley, contributed the following:

"The design of a modern house is in many ways the most complex problem in architecture, and no rules can hold for all houses or even houses in general.

"To say that a house with its living room to the rear has nothing strategic about it, is to ignore one of the subtleties of Japanese design (if we must have precedent), i.e., the privacy of the living room. With the usual arrangement the unwelcome and em-

barrassing guest upon entering the door enjoys a complete and intimate view of the living room and dining room. A man's home is most certainly his castle, and there of all places may he eat his dinner and sit in front of his fire, safe from the stares of any Tom, Dick and Harry who chooses to ring his doorbell. It is a glaring fault of most competition designs though juries seem to consider it an asset, judging by awards.

"If the living room should be at the front in order to hear approaching visitors, I would like to know what the owner does about it if they chance to be obnoxious. It is then too late to escape, and I for one would prefer the chance to stall them off in a hall from which they cannot see who is in the living room or what we are having for dinner.

"It may rightly be that a sunny living room is harder to keep cool in summer than warm in winter, but is the heating problem paramount? The psychological value of sunlight cannot be entirely ignored; a room in which the sun's rays never shine will be a gloomy room at times, no matter what other attractions it may offer. Such is the case, at any rate throughout the northwest and California; in fact in any climate where the sun is not unbearably hot in summer. It may even be argued that people often prefer a little more cheer in winter to a little extra warmth in summer, which after all may be shuttered out. (Architects ought to be reminded of the function of shutters anyway.)

"In regard to the privacy of the living room, another point is usually ignored in small house design. One should be able to get out of the front door from the upstairs without being seen from the living room. I have been trapped upstairs by embarrassing guests often enough to know whereof I speak.

"The location of the garage is more open to debate and less amenable to rules. It is true that garage odors will pass one door. But my experience has been that they will not pass two doors. I know of several such houses and lived three years in one, and never noticed any smell of gasoline. Even if we accept the point, I believe it is far outbalanced by the convenience of being able to get out of the car in the house on rainy nights. I even venture to predict that eventually the garage entrance will be the main entrance and the feature of the front elevation.

"If the garage is away from the house, say well to the rear as H. B. Sevaldsen recommends in his *Pencil Points* discussion, the following little tragedy will be often repeated: I leave the car at the curb before dinner because we don't know if we are going to the movies or not. We decide not to go, forget the car and if I am very unlucky we go to bed. As I turn out the light, I remember the car is out and a ticket in the morning will mean a five-dollar fine. I go out in slippers in the rain, put the car up and walk fifty yards back to the house in the dark, cursing the architect who put the garage away out in the 'sticks'. It may be argued that I am dumb, but the world is full of dumb people, especially clients, and I have known some very smart people to forget their car is out.

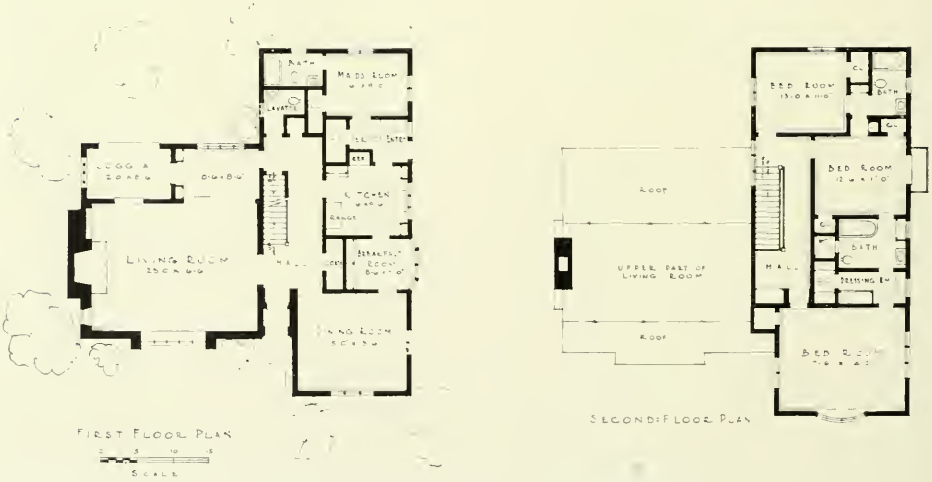
"The case may be argued both ways and if there is a solution it will lie in the location of the house and lot. There can be no rule.

"As to the generalities in the article, they may or may not be true. Arguing by analogy is an interesting though very unconvincing form of debate. One comparison will prove and another as readily disprove, and in either case nothing is ever settled by such methods. Modern buildings may be truly likened to automobiles but I defy anyone to prove anything by the comparison.

"For myself, I prefer to be stodgy and follow Louis Sullivan's creed that "every problem contains and suggests its own solution" and those who bring rules, or precedent, or what have you to bear, are digging holes in which to trap themselves.

"It may be pertinent to quote Frank Lloyd Wright that "no man ever designed a building worthy of the name architecture who first fashioned it in perspective and then fudged the plan to suit." And if a gable, chimney and entrance all fall on one elevation it is not necessarily clumsy, it depends on who does it."

RESIDENCE OF FRANKLIN DONNELL, BEVERLY HILLS, CALIFORNIA
H. Roy Kelley, Architect



PLANS, RESIDENCE OF FRANKLIN DONNELL, BEVERLY HILLS, CALIFORNIA
H. Roy Kelley, Architect

GEORGIAN LIVING ROOM IN PIEDMONT RESIDENCE

by WILLIAM LEE OLDS

THE residence of Mr. and Mrs. Richard S. Rheem in Piedmont, California, follows the traditional lines of brick and stucco as developed in England. The house is ideally located on a side hill surrounded by large trees. From the principal rooms a magnificent view is obtained of the Bay and in the distance, San Francisco.

The main entrance faces east through which one enters into a spacious hall. To the left is the living room, directly ahead the library and to the right, the dining room and stairway to the upper floor.

The living room with exposures east, west and south, has unsurpassed views in three directions. The room is executed in the Georgian manner, into which, however, has been incorporated a feeling of delightful informality. This has been accomplished mainly by the color combination—amethyst, cherry red, green and oyster white. The harmonious blending and distribution of these colors form a rich background for the many fine old Georgian pieces.

The dining room is of oak, the paneling in natural wood finish, extending from the floor to the vaulted ceiling. Through the use of two colors only, blue and gold, a feeling of richness and dignity is attained. The rug and chair upholstery is a combination of these colors with the blue predominating. The ceiling, and hangings are of gold. The furniture is massive and of oak finished in a somewhat deeper shade than the paneling. To avoid a monotony of richness the table with its floral centerpiece is designed to form the center of attraction and around it the room has been built.

The breakfast room across a small passage from the dining room, has an eastern exposure. The feeling obtained here is one of extreme informality achieved through the combination of a number of colors. The breakfast set is Chinese Chippendale, painted blue-green, amethyst and yellow to harmonize with the blue-green walls, amethyst rug and yellow glazed chintz hangings.

The master bedroom on the second floor over the living room, has the same unobstructed vista as the room below. On entering this room one's first impression is of a

Interior executed by A. F. Marten Company

LIVING ROOM, RESIDENCE OF R. S. RHEEM, PIEDMONT, CALIFORNIA
Alben Froberg, Architect

soft warm glow, achieved through the harmonious handling of peach and blue-green, supplemented by gold and old ivory. The walls are canvassed, old ivory in color, with an over glaze of delicate peach. The glass, curtains and rug are peach color; the hangings are also peach with a ruffle of blue-green. The room is purely French in feeling; the furniture a combination of the Louis XV and XVI periods. One of the most interesting pieces in this room is a perfume cabinet, custom made from an original design.

Throughout, the interior is formal but by means of complete color harmony and judicious furniture arrangement, an atmosphere of informality has been attained which reflects the graciousness and hospitality of the owners.

COLORS FOR INTERIORS

Natural colors, those of the flowers, of the trees, and the sunny skies, rule and will always rule the Pacific Coast decorating industry, says Wilfred Le Sage of Los Angeles. The handiwork of Mother Nature has found the ideal of all color form—color is abundant in the flower pot, but there is never a clash of tones. So it will be in the decorating trade on the Coast. A truer representation of natural colors in their combining forms will be forthcoming, and this tendency will repulse any invasion of sombre plainness that might come from the East.

Interior executed by A. F. Marten Company

DINING ROOM, RESIDENCE OF R. S. RHEEM, PIEDMONT, CALIFORNIA
Alben Froberg, Architect

Dame fashion has decreed that black will be chic for women's dress for the fall and winter season. What the woman wears in color and design finds its way into the manufacture of upholstering and drapery fabrics.

The real periods of design, those of Adam, and of Louis XIV, Louis XV, Louis XVI have retained their lofty sway of the periodism schemes.

Yet, the so-called modernistic art has left its impression in Western homes and an indelible influence on the fabrics going into the homes at the present time; now, with the assimilation of the modernistic ideas, the field of design has been completely covered, he declares. There is nothing new forthcoming. The feeling of modernistic art as expressed in soft pastels, has given the most recent contribution its permanent niche.

Modernism in its cubist and futuristic forms taught the home decorators a great lesson. They learned that a striking, stunning effect, though the most pleasing in its first appearance, grew rapidly tiresome to the customer. It was too outstanding; it demanded attention; it leapt to the foreground and betrayed its objective. For a guest room, it was popular for a time, but for living and sleeping rooms, the color clash, the stiffness, the over-done effect deprived the home of its restful, comfortable charm, so requisite to liveableness.

GARDEN FURNITURE

THE art of gardening is undoubtedly one of the oldest of human occupations. The ancient Egyptians, Assyrians, Greeks and Romans, as well as the Chinese and Japanese, were well versed in garden-craft. The hanging gardens of Babylon, for instance, were so elaborate as to be ranked one of the seven wonders of the world. They consisted of twenty plateaus rising one above the other and resting on walls 22 feet thick; each plateau was planted with trees or other vegetation and was watered artificially. Water, indeed, always played an important part in the plans of practically all these old-time landscape treatments.

Sculpture and masonry entered into the formation of the Egyptian gardens, and the water was obtained from the Nile. They grew fruit mostly, and they were enclosed by walls and thick hedges to protect the crops. The Greeks, on the other hand, preferred fine expanses of well-kept grass, with occasional fruit trees and beds of flowers, mostly roses, lilies and narcissi. Marble walks, statues, temples and shrines, gleaming white beneath the brilliant sun, were customary.

The earliest Romans planted vineyards and orchards of apples, pears, figs and mulberries—and always an abundance of roses. From descriptions in the letters of Pliny and Cicero, many of these ancient gardens included extensive domains, terraced, graded, embanked, adorned with every kind of edifice and device for ornament and rest, beautified with fountains and many varieties of trees, vines and shrubs. They were extremely formal, and it is evident, as Hamlin points out in "European and Japanese Gardens," that "the ancients regarded nature as a servant, not a mistress, and indulged little sentiment for nature in the abstract. The same is largely true of the Renaissance gardeners. They did not seek to counterfeit the meadows and forests, the hills and vales of wild nature or to bring trees and shrubs and topography into any resemblance of the picturesque and accidental combinations of a natural landscape. Their gardens, and preeminently those of Italy, were each designed as a decorative setting to the palace or villa, or as pleasure grounds in which what was most pleasing was the human element—the evidence of design, symmetry, order, balance, contrast, ornament; not the aspect of natural growth, but the evidence of nature subdued to human control."

Gardening as an art of luxury received but scant attention during the Dark Ages; the monks of the Middle Ages, however, developed the art to a position of importance, and during the Renaissance its practice was carried on as a recognized accompaniment of its sister art, architecture. Bacon, during the time of Elizabeth, wrote that "without it, buildings and palaces are but gross handworks; and a man shall ever see that when ages grow to civility and elegance, men come to build stately sooner than to garden finely."

One of the first books on gardening was "De-Yconomia de Housbrandia," by Walter de Henley, written in the sixteenth century; many other books followed shortly by authors in many lands. In most of these works considerable attention was given to the matter of garden structures, such as summer houses, arbors, pergolas, bridges and furniture. A great difference of opinion is discernible concerning the use of marble for such purposes. Modern writers on gardening almost invariably devote a considerable amount of attention to this sub-

ject, and it is interesting to note that the tendency is toward a more extensive use of this material.

This is, after all, only a reversion to early customs. Vast sums were spent in ancient Rome and Greece on buildings and decorations in marble for the garden. Varro's garden at Casinium contained, among other objects, a large aviary, open-air temples and bridges. During the Augustan age, marble statues and foundations were introduced in abundance; and among the wonders of Pliny's famous Tusculan Gardens were summer houses and seats, near which bubbled tiny fountains. Urns and statues were much used by the celebrated Cardinal d'Este. At Frascati, Naples and Florence the great villas vied with each other in the sumptuous magnificence of their garden decorations. During the seventeenth century, Evelyn visited Italy, and later wrote of the gardens which he visited. He describes whole courtyards given over to displays of marble fountains, with statues costing enormous sums, vases and urns of prodigious size and exquisite workmanship. Horace Walpole, describing some of the older Italian gardens, remarked in his book, "On Modern Gardening," that "Seats of marble, arbors and summer houses terminated every visto."

France, under Louis XIV displayed, next to Italy, the greatest preference for garden embellishments. At the Tuileries, Versailles, Trianon and St. Cloud were gardens designed by Le Notre containing fountains with remarkable carvings, statues and therms, benches, balustrades and walks. Later, when the English style of garden came in, many of these structures were removed.

In the greater part of America, where a large part of each year is comparatively mild, marble, terra cotta and stone furniture is delightful for architectural effects and comparatively inexpensive. These pieces need not be elaborate nor need their use be limited to large or pretentious gardens. A sundial, a bench, a bird bath, a graceful urn, a walk of irregularly shaped slabs—any one of these can frequently be employed with much success in a small garden or on a small strip of lawn. It is not altogether necessary, moreover, that these objects, in order to justify their use, be strictly useful. It is enough, ordinarily, that they be beautiful, provided they are not incongruous. It would be highly improper, for example, to place a marble seat where it would obviously not offer the slightest inducement for a halt and rest; or a bridge on dry land that spans nothing but an imaginary stream; but to refuse to admit to one's garden a charming sundial, for instance, on the highly practical ground that it was not as accurate a timekeeper as one's watch, would be the height of folly.

Mr. F. A. Waugh expresses this same thought most aptly, in his "Landscape Gardening," as follows:

"The introduction of stairways, balustrades, urns, fountains and statues in a much frequented garden, supposing the articles to be in themselves pleasing, must always be a satisfaction to the human habitues. The eye delights in them all. So that when we have quite laid aside the attempt to deceive the senses into a feeling of rural solitude, and are working along professedly artificial lines, nothing gives greater pleasure than well-executed and well-disposed architectural and sculpturesque features. This proposition needs no argument or explanation. It is self-evident, but none the less pregnant for its obviousness."

"We should furnish our gardens with the same discerning taste that a well-dressed woman chooses her clothes," claims Minga Pope Duryea in her book, "Gardens In and About Town". A pergola, for instance, is not suitable for any garden. It may be used as a shelter in the rear of a town or suburban garden, but its authentic use is to provide a passage between two parts of the garden or two buildings. Consequently it is better to have a garden shelter especially designed for your problem rather than to rely on the more commonplace designs of pergolas.

The same principles that apply to the arrangement of house furniture apply to

the open-air treatment. "The actual objects in arrangement are the same," writes a recognized authority on these matters, Mrs. Francis King, in her book, "The Little Garden". "Why do we set indoors a couch or settee or out of doors a seat or bench, there and not here? Because of some advantage to be gained there, and not here, in the way of a pretty vista from a given position, a good light for reading, a certain seclusion conductive to quiet, or to intimate talk. Whatever the bit of furniture may be, in either house or garden, if its placing for use is absolutely right, it falls into the picture and adds charm and distinction to its surroundings. 'All's fair that's fit.'

"I have just seen a lovely Southern house, a house whose white-pillared portico and rose-colored brick have as a foil a whole blue-green mountain behind them. Here, across a walk from the steps to this portico, is a shallow marble basin for birds, a tiny marble faun piping on one edge. This carries the white of the pillars and steps farther into the foreground of green lawn and trees, and is successful because it is suitable, quite apart from its being in itself a useful and charming object. A basin set against the wall may form an excellent quiet decorative accessory of the introduction of water into the little garden. It may be entirely unobtrusive in line or in garlanding of vines; yet it adds a living interest to a shaded spot; it gives the pleasure of the sound of running water that is refreshing on warm days and also serves as a good terminal feature for a garden walk or vista."

PATIO, HOUSE OF N. F. BALDOCCHI, SAN FRANCISCO

SIXTY-FOURTH INSTITUTE CONVENTION AT SAN ANTONIO, TEXAS

PACIFIC Coast delegates to the American Institute Convention at San Antonio, Texas, returned greatly enthused. A movement to raise the standards of architecture throughout the country was one of the spotlights of the convention.

Broadening a declaration at an earlier session that the carrying out of the Federal building program should be entrusted to private architects, the convention adopted a resolution declaring that this policy should apply to all buildings erected by cities and states and other political divisions. Governor Franklin D. Roosevelt will be asked at once to further this plan in the state of New York, where extensive public works projects are to be executed.

California was singled out as an example for the nation, a telegram sent by the Institute to Governor Rolph commending his "recognition of the well-established principle of public policy that competent private architects should be employed for all municipal, state, and Federal building projects." The telegram was signed by Robert D. Kohn of New York, president of the Institute and Frank C. Baldwin of Washington, secretary.

The resolution, which came as a climax to three days of discussion, showing that the architectural profession is thoroughly aroused over the tendency to concentrate architectural service in the hands of a single Government bureau, follows:

"The American Institute of Architects affirms that the public buildings and monuments in every community of the nation should proclaim the highest standards of enduring architecture, and that in their design the customs, traditions and local materials of the community in which they are located should be fully recognized.

"The Institute further affirms that such standards of excellence can be achieved only by enlisting the services of the best ability in the architectural profession that is locally available, and that every community is entitled to such services.

"It also affirms that men capable of producing these results are not to be found in subordinate capacities in state, municipal and other civic planning bureaus, and that the concentration of planning and designing buildings in such bureaus must inevitably tend to produce stereotyped, mediocre, uneconomic and uninspiring results.

"The Institute further believes that a national policy of encouraging private business initiative is wise, and that therefore the operation of state, municipal and other bureaus for the designing of buildings and monuments is inconsistent with this policy and an invasion into the field of individual professional activity.

"In urging upon state, municipal and civic authorities the desirability of availing themselves of the services of architects in private practice, the Institute stresses the importance of the care which must be taken in their selection. That they should be chosen for reasons of fitness alone, and on the basis of their records, cannot be too strongly emphasized.

"The Institute through its delegates assembled, directs Chapters to transmit these views to the proper state, municipal, and other civic authorities in their communities,

and to take such other measures in co-operation with related organizations as may be necessary to accomplish the aims expressed herein."

The convention, in a previous resolution, charged that inferior architecture, unfair to the people, will result from the Government's present policy of "carrying into effect the greatest national building program the world has ever known."

The Government departments in charge of this program have departed from the policies laid down by President Hoover, former President Coolidge, and Secretary Mellon by confining architectural effort chiefly to the Office of the Supervising Architect of the Treasury, where it must inevitably tend to become "stereotyped, mediocre and uninspiring," it was declared.

The country, as a result of this course, is being deprived of the best architectural ability, while "a really unexampled" opportunity to contribute to higher civilization is being lost, it was asserted in the report of the Institute's Board of Directors, adopted by the convention.

The Board advocated the establishment of a Federal Department of Public Works, saying:

"The Board of Directors of the American Institute of Architects places itself on record as sponsoring the early development of a Federal Department of Public Works in order that all government construction agencies shall be efficiently correlated under one executive head, presumably of Cabinet rank; with two assistant secretaries, one in charge of engineering projects, the other in charge of architectural projects.

"The function of this Department should be solely administrative and supervisory. In this way only can the best engineering and architectural ability of the country be made available for the execution of public works."

The Board's report pointed out that for thirty years the Institute had co-operated with the Government in the planning and development of Washington, many distinguished architects serving without compensation on the McMillan Commission, the National Commission of Fine Arts and National Capital Park and Planning Commission, supported by the American Institute of Architects throughout the country.

"We welcome," the report continued, "every opportunity to make available to the Government the best professional ability which the country possesses in order that the splendid example already established in our National Capital may be extended to every community where these ideals may be reflected and emphasized in our Federal architecture.

"Great sums of money have been appropriated by the Congress for the erection of many Governmental structures in all sections of the country. Under the stress of circumstances, despite the large organization of the Office of the Supervising Architect of the Treasury, few out of many projects have been assigned to architects in private practice, but it is the conviction of the architectural profession that public policy will be best served by a further extension of this work into the hands of able architects resident in the localities which the buildings are designed to serve.

"We believe that the country is entitled to the services of the best architectural talent available, and that the concentration of so large a volume of work as the present appropriations provided, into the hands of a single Government bureau, must inevitably tend to produce stereotyped, mediocre and uninspiring results.

"We believe further that our national policy of encouraging private business initiative is wise; and that therefore the operation of the Office of the Supervising Architect of the Treasury is inconsistent with this policy, and an invasion into the field of individual professional activity.

"In urging upon the Government the desirability of availing itself of the services of architects in private practice, we stress the importance of the care which must be taken in their selection. That they should be chosen for reasons of fitness alone, and on the basis of their records, cannot be too strongly emphasized.

"Their selection should be left to a Board which might be composed of the Chairmen

of the Public Buildings Committees of the Senate and House, a representative of the Department concerned, disinterested architects and a qualified layman representing a national civic or business organization.

"We affirm that our Federal buildings in all parts of the country should proclaim the highest standards of enduring architecture. The special requirements, customs, and traditions of the communities in which they are located should be recognized and met in their design.

"Such standards of excellence can be achieved only by enlisting the best ability in the architectural profession. Men capable of producing these results are not to be found in subordinate capacities in government bureaus, certainly not in numbers capable of creditably carrying into effect the greatest national building program the world has ever known."

In support of its position, the Board cited an address of President Hoover delivered in April, 1929, in which the President said:

"It is the wish and the demand of the American people that our new buildings shall comport with the dignity of the Capital of America, that they shall meet modern requirements of utility, that they shall fulfill the standards of taste, that they shall be a lasting inspiration. In architecture it is the spiritual impulse that counts. These buildings should express the ideals and standards of our times; they will be the measure of our skill and taste by which we will be judged by our children's children.

"Mr. Mellon has insisted that the great responsibility before us is not one which can be discharged by any one individual. It must be the product of the common mind of many men, devoted to secure for America the vast realization of the expression of our Nation. And I am confident that we have within the Nation the taste, skill and artistic sense to perform our task, for our architects have already given to America the leading place in their great art."

The American Institute of Architects accepted these statements as expressing the general policy of the Government, not merely applicable to Washington, according to the Board's report, which went on:

"The Institute is now faced with the facts that the departments in charge of the execution of the present nationwide program have not been guided by this policy. Data furnished by the Government shows that while the public buildings in the National Capital have been entrusted to architects of distinguished reputation, the policy for the country at large has thus far been restricted to the appointment of comparatively few architects in private practice.

"Outside of Washington, of 378 buildings to be erected in the United States, only forty buildings in eighteen states have been assigned to architects in private practice, leaving the remaining buildings in the Office of the Supervising Architect of the Treasury. The American Institute of Architects submits that this policy is unfair to the nation at large. The Institute reiterates its stand that every section of the country is entitled to public buildings which shall represent the best architectural ability of the nation."

Robert D. Kohn of New York City was re-elected President of the Institute. Other officers chosen are:

First vice-president, E. J. Russell, St. Louis; second vice-president, Horace W. Peaslee, Washington, D. C.; secretary, Frank C. Baldwin, Washington, D. C.; treasurer, Edwin Bergstrom, Los Angeles.

The new Board of Directors will be composed of the officers and the following: George H. Gray, New Haven, Conn., New England Division; Albert L. Brockway, Syracuse, N. Y., New York Division; Frederick M. Mann, Minneapolis, Minn., Central States Division.

The Institute elected these five honorary members "as distinguished artists in their respective fields, or as distinguished laymen in their respective communities who have rendered signal and valuable service to the advancement of architecture."

John Nicholas Brown, Providence, R. I.; Frederic A. Delano, Washington, D. C.; James Earle Fraser, New York City; Ern-

est Peixotto, New York City; and Edward McCartan, New York City.

Seven foreign architects were elected honorary corresponding members as follows: Auguste Pellechet, Paris; Gustave Jaulmes, Neuilly-sur-Seine, France; Wilhelm Kreis, Berlin; Sir Banister Flight Fletcher, London; Professor German Bestelmeyer, Munich; Professor Bruno Taut, Berlin; Professor Hans Poelzig, Berlin.

Twenty-three architects were elected Fellows of the Institute, it was announced by Charles A. Favrot, New Orleans, Chairman of the Jury of Fellows. They are: Atlee Bernard Ayres, San Antonio, a member of the West Texas Chapter; William T. Aldrich, Boston; Henry Baechlin, New Jersey; John Carlisle Bollenbacher, Chicago; Arthur Howell Brockie, Philadelphia; Daniel Hudson Burnham, Chicago; Hubert Burnham, Chicago; Charles Northend Cogswell, Boston; Charles Wilmott Dawson, Oklahoma; Edwin Sherrill Dodge, Boston; Wilson Cowl Ely, New Jersey; Gilbert Christopher Higby, New Jersey; Miss Lois Lilley Howe, Boston; Edward Harrison Hoyt, Boston; I. Howland Jones, Boston; J. Lovell Little, Boston; Olle J. Lorehn, South Texas; Elmo Cameron Lowe, Chicago; Walter Mellor, Philadelphia; Frederick Vernon Murphy, Washington, D. C.; George Bispham Page, Philadelphia; Philip Richardson, Boston, and Courtlandt Van Brunt, Kansas City.

The Fine Arts Medal of the Institute was awarded to Frederick Law Olmsted of Boston "for distinguished achievement in landscape architecture", and the Craftsmanship Medal to Leon V. Solon of New York "for distinguished achievement in ornamental terra cotta and faience."

Reports of officers and committees showed that the Institute is in a flourishing condition. Plans were made for carrying out constructive policies during the coming year in co-operation with all elements in the building industry. The idea of a functional democracy in the industry was stressed by President Kohn in his annual address.

RESIDENCE OF ALBERT L. GUERARD, STANFORD UNIVERSITY
John K. Branner, Architect

ENGINEERING

and

CONSTRUCTION

MAIN ENTRANCE AND OFFICE WING
Note light tower on right with 48 reflectors

FEATURING THE SEALS' STADIUM SAN FRANCISCO

H. J. BRUNNIER, *Structural Engineer*

Editor's Note—When the titles and abstracts were searched before the ball park was laid out it was found that in the days of '49 this particular plot of ground was staked out as a gold claim and called the "Home Plate Mine."

SHOWING GRASS FIELD, SITE OF SEALS' STADIUM
Note beginning of form work against rock face in left field.

GENERAL VIEW OF STADIUM FROM OUTSIDE

SEALS' STADIUM, SAN FRANCISCO, SEATING CAPACITY 25,000
Photo taken from center field, showing complete stand (dark section) and bleachers on extreme left (light section).

SAN FRANCISCO'S NEW BASEBALL STADIUM

by H. J. BRUNNIER, C.E.

IN the spring of 1930 the San Francisco Baseball Club, Inc. decided to build a new plant on its newly acquired property at 16th and Bryant Streets. This site has a frontage of 660 feet on 16th Street and 566 feet on Bryant Street, and was chosen because it is in one of the warm belts of San Francisco, free of fog during the playing season. It also appealed to the club management because it is the only available close-in property of sufficient size for a regulation baseball field.

A large playing field, a permanent fireproof structure for the stands and the housing of facilities, and comfortable visibility for approximately 25,000 persons were the first requisites of the owners. After many preliminary studies and conferences it was decided to orient the field as shown in one of the illustrations. In this location the back of the stand protects the patrons from the prevailing winds and fortunately gives the minimum sun interference to the players.

The stands were designed in a V shaped plan with a 56 foot radius curved front at the home plate and thence on tangent lines intersecting the foul lines at 385 feet. Focusing on a point 25 feet in front of the stand a 4 inch sight line was used for the box section (the lower 16 rows) and a 3 inch sight line was used for the 26 rows in the Grandstand section. On this basis the risers varied from 10¾ inches to 13¾ inches. The lower tread is level with the playing field and the top aisle is 46'-3" above. The total width of the stand is 130 feet and the length measured along the back wall is 1000 feet. Chair seats are used throughout except in the bleacher section. These chairs are bracketed from the risers, thereby keeping the treads free from any obstructions for cleaning purposes and also making it more comfortable to walk between rows.

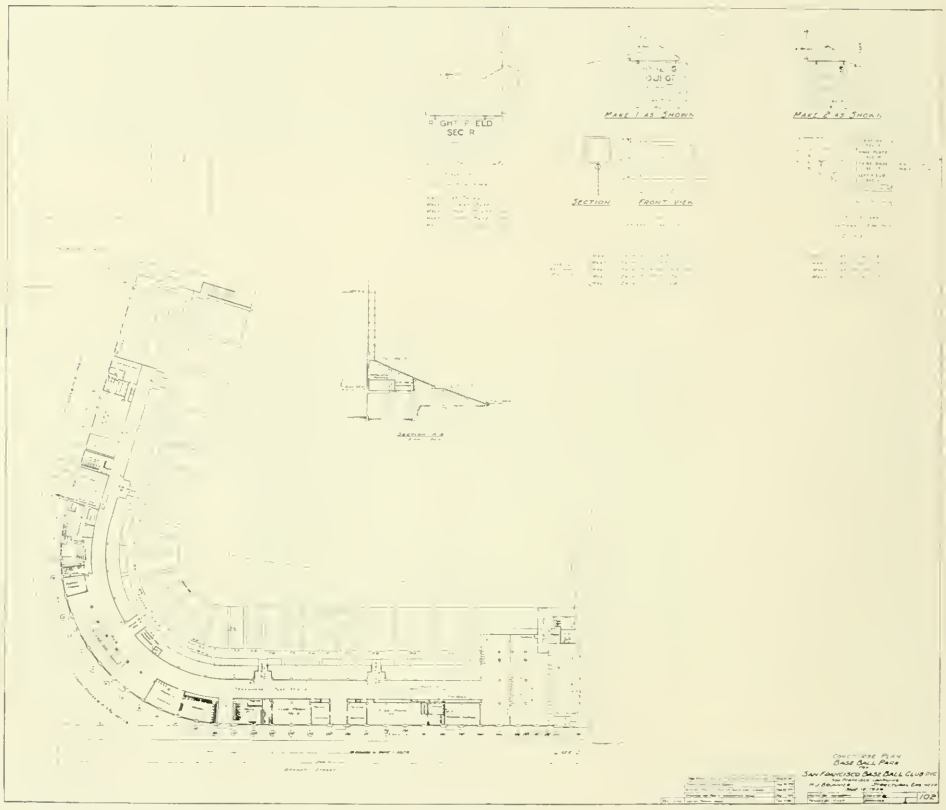
Considerable thought was given to the ease and comfort of the traffic flow in and out of the park. Gates are provided at the lower end of all aisles, except at the back stop, giving access to the playing field after the game. Thus, via gates in left and center field, the patrons may go easily and quickly to the auto parking area operated by the ball club. Another large gate is located in right field for those desiring to exit on to 16th Street. The entrance to the park is located on 16th Street near the corner of Bryant. Here the public enters through three large openings into a lobby, where the ticket sellers' booths are located. From there patrons pass through the turnstiles up an easy inclined ramp, 20 feet wide, to the concourse floor. On this floor there are 5 vomitories with direction signs leading to a distributing aisle between the grandstand section and the boxes.

Individual club rooms for the Seals, the Missions and the visiting teams are located on the concourse floor connected to the players dugouts by tunnels. The club rooms are provided with specially designed spacious lockers, showers, toilets, clothes dryers and trunk storage. On this same floor are two separate toilet rooms for men, a cozy lounge room for women connecting to a large toilet room, the concession department and a long old fashioned bar.

Over the entrance lobby on Sixteenth Street there are two floors of offices, each having a kitchen and dining room overlooking the playing field. The second floor

is occupied by the Missions and the third floor by the San Francisco Ball Club.

The owners desired to have the outside appearance of the ball park in keeping with its utility. George W. Kelham, architect, owners being desirous of having a high class installation, retained Hunter & Hudson as consulting engineers. After careful consideration of the requirements, both for the playing of night baseball equal to day



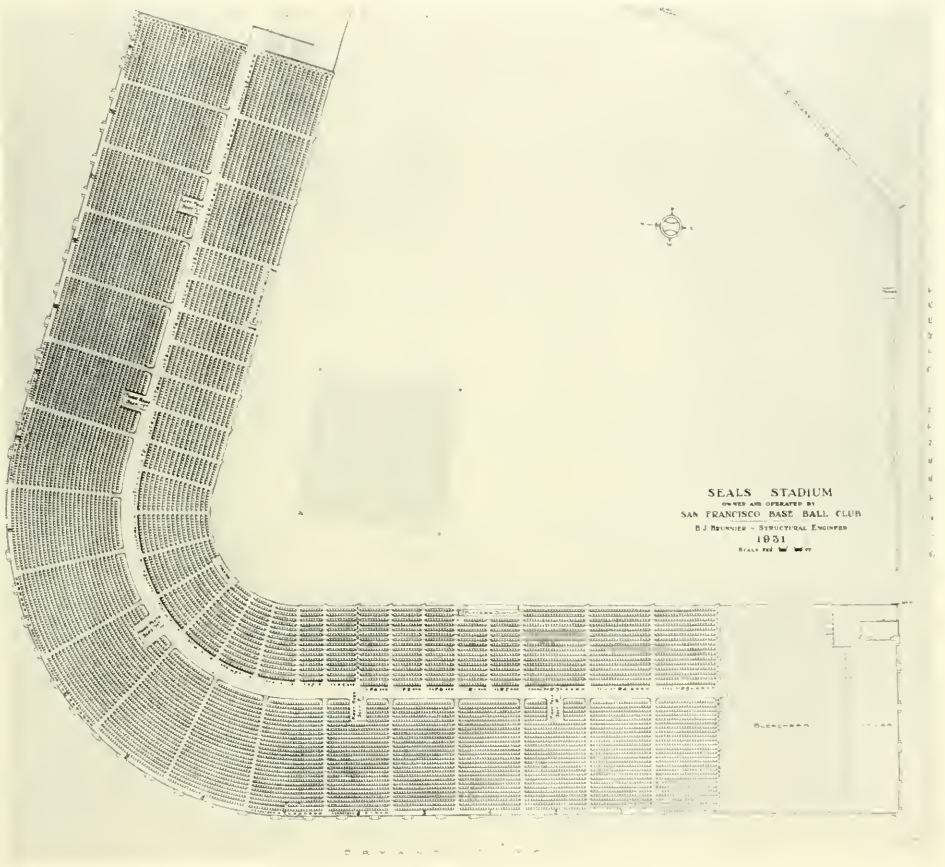
CONCOURSE PLAN, SEALS' STADIUM, SAN FRANCISCO
H. J. Brunnier, Structural Engineer

worked out a very pleasing modern style for a facade which has such great length in proportion to its height.

Night baseball was adopted in the Pacific Coast League last year. After close analysis of weather bureau records and half hourly observations on the site during the playing season it was decided that night games are feasible in San Francisco. The ball and its complete visibility to spectators, it was decided to have 6 light sources on towers, with the lowest light 122 feet above the playing field. Four towers are located on the back of the stands and two in the outfield. The lighting equipment consists of 310 floodlight projectors, each containing a 1000 watt lamp. The projectors are the enclosed mirrored glass reflector type

with lightly stippled lenses. The light on the diamond will be approximately 50 foot candles grading off to about one half this amount in the outfield. For purposes of comparison it may be mentioned that 8 to 12 foot candles in library reading rooms and 15 to 25 foot candles in drafting rooms for close bench work is considered excellent illumination.

Before actual construction work was started it was necessary to remove approximately 84,000 yds. of material, most of which was rock. On account of the rock base, it was necessary to tile drain the entire field and bring the playing surface to grade by crushed rock fill over the tile, covering the rock with sand, which in turn was covered with a top soil necessary for the growth of grass. As continuous daily baseball is played in San Francisco during the season, it is impossible to keep grass growing between the stands and the foul lines.



SEATING LAYOUT, SEALS' STADIUM, SAN FRANCISCO
H. J. Brunnier, Structural Engineer

Because of this hard usage it will require several years of growth between seasons before the turf will be well established.

The outfield fences are 20 ft. high and the distances from home plate are as follows: Right field, 365 feet; center field, 424 feet; left field, 385 feet. The right and left field dimensions are measured on the the foul lines.

Limitations in the length of this article permits of describing only a few of the many details that were given consideration in the endeavor to develop a baseball park that would meet the approval of the San Francisco fans.

Regardless of a continuing five year lease on Recreation Park and in spite of the financial depression, the owners had the courage to build a most modern baseball park, providing employment for hundreds of men for many months at a time when most needed.

The officers of the San Francisco Baseball Club, Inc., are Charles H. Strub, President; Charles H. Graham, Vice President; George A. Putnam, Secretary and T. J. Stephens, Treasurer.

Seals Stadium was designed and supervised by the writer and was constructed by Lindgren-Swinerton, Inc.

Best Lighted Park in World

Never before has so much light been used on any outdoor athletic field as the amount projected on the new San Francisco baseball park for the night ball games. It is undoubtedly the best lighted stadium in the world.

The light comes from the 300 Westinghouse projectors on towers about the field. The lamp globes are 2,750 candle power each. The light from these lamps is reflected by a new glass reflector designed by Westinghouse engineers and used in San Francisco for the first time. The light from each lamp is concentrated by its reflector into a searchlight beam of 350,000 candle power. Each of these beams is focused on a definite point on the baseball field, 70 of them on the infield and 230 on the outfield, making a total of 115,500,000 candle power concentrated on the playing area. These beams of light are overlapped and diffused with one another so that an even flood of light is produced over the field.

A slightly higher intensity of light is built up on the infield by concentrating more of the beam on this area where fast playing occurs. A still higher intensity of light is concentrated on the path from pitcher to catcher so that the pitched balls are brilliantly lighted.

The spill light from these many beams fills the dome of space high over the playing field with light energy. When a high fly ball travels through this space it can easily be followed through its entire course even over the fence if the batter is so lucky.

The lights are placed 125 feet above the field so that the beams come down at such a steep angle that the players' cap visors protect their eyes from the direct rays of light. Since all high flys originate at home plate, the towers are located so that none of the lights are in the direct path of a fly except possibly a high foul over first or third base, and even then the intensity of light is not so troublesome as the rays from the sun under similar conditions.

The grandstand is illuminated with a soft even light, pleasing to the eye, from the spill of the light beams from the flood lights.

PRODUCERS' COUNCIL MAKING HEADWAY

Adoption by the building industry of an industrial philosophy to outlaw manufacturers and contractors who prey upon the public, was urged by Sullivan W. Jones, former State Architect of New York, at a luncheon meeting of the Producers' Council Club of New York City at the Commodore Hotel on April 24. The Governor of the Club, Farnham Yardley, presided.

"How utterly futile, even dishonest, it is to attempt to sell the public the idea, as has been suggested, of employing an architect until the employment of the architect insures a better building," declared Mr. Jones, a Fellow of the American Institute of Architects, with which the Producers' Council is affiliated in a nationwide effort to improve conditions in the construction industry.

"How utterly futile will be the joint effort of the producers and architects in this Council work as long as there are manufacturers who will do what a tile manufacturer tried to do not long ago, when he shipped several carloads of culls to fill an order for first grade floor tile. We waste our time talking about creating a public demand for better buildings as long as some contractors will burn the midnight oil scheming to evade specification requirements. The philosophy I am talking about would make the people who do this sort of thing undesirable in the industry."

Mr. Jones decried the conventional campaigns of education to promote good architecture, good materials, and good building methods. He advised the manufacturers to emulate Babe Ruth, saying:

"Babe Ruth did not have to educate the small boys of America to understand that home run hits were desirable in baseball in order to increase his own prestige and popularity, and consequently increase his income. His method was that of delivering home runs.

"That is exactly what I am suggesting that the building industry do—deliver better buildings. Better buildings will be appreciated and the public will follow—we will not have to push it—into the habit of expecting the delivery of quality materials, good workmanship, and appropriate design.

"Architecture, whether it be in the form of a car barn or a monumental government building, is the product of building industry. We must begin by ridding our minds of the common belief that architecture lives only in the designer's office. There is no such thing as an unheard symphony, and there is no such thing as unbuilt architecture.

"The painter may conceive a masterpiece, but it does not exist until he has transferred it from his mind to canvas by the use of colors and brushes, and the technique he employs in making that transfer from unreality to reality is just as important as the original conception. Design, by itself, is not architecture, and it does not become architecture until it becomes a reality in stone, steel, brick, and a thousand other materials.

"Here again in the transfer from unreality to reality the technique employed is as important to the success of the finished product as the design itself. Indeed, the selection of materials—the media of expression—and their proper use, are of growing importance in contemporary architecture, as it breaks the bonds of tradition in the effort to perform its natural and historic function of reflecting the environment from which it springs.

"Architects know, and many manufacturers and contractors must also know, how often the building looks beautiful in the architect's picture, and like hell when it is built—and sometimes that the contrary is true."

Mr. Yardley, who is president of Jenkins Brothers, was re-elected Governor of the Producers' Council Club at the meeting. J. E. Smith of the International Nickel Company was chosen vice-president, W. L. Kiplinger of the Carrier Engineering Company, treasurer, and Edwin H. White of the Sisalkraft Company, secretary.

Producers' Council Clubs, it was reported at the meeting, are being formed in the principal cities of the country to unite all factors in the construction industry. The Council is composed of manufacturers with a total capitalization of $23,500,000,000.

The ARCHITECT'S VIEWPOINT

¶ *State Associations Show Progress*

¶ *Institute Invites Collaboration*

¶ *A Campaign for Better Architectural Practice*

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FROM the north, east, south and west there has come a most enthusiastic response to the suggestion that the State Associations and kindred Societies of Architects organize to further their interests by bringing about unified co-operation. What is conceded to be a very important step to this end was taken by the American Institute of Architects at its Sixty-Fourth Annual Convention held at San Antonio, Texas, April 14th, 15th and 16th, when resolutions were adopted authorizing the Board of Directors of the Institute to invite such societies to collaborate with it and to formulate a plan whereby such societies can be brought into direct unified relationship with the Institute and to present at the next convention the necessary recommendations to achieve such result.

On the day preceding the convention an informal meeting was held of various State Associations and Societies of Architects which had been called together by the State Association of California Architects working in full accord with the American Institute of Architects, and upon their invitation.

Twelve states were represented at this meeting and in addition to address and a general discussion by members and delegates the assembly was also addressed by President Robert D. Kohn, Executive Secretary E. C. Kemper and several of the Regional Directors of the Institute.

At the opening session of the Institute Convention the matter was presented by the Board of Directors, coming up through the report of the Committee on Constitution and By-Laws, of which Mr. Edwin Bergstrom of Los Angeles, National Treasurer, is Chairman. In presenting the matter, the Board said it felt that the Institute, in collaboration with the state societies, should work out some plan of organization which will give the unattached men in the various communities an opportunity to become members of the architectural societies in their states, and by which those state societies shall be related to the Institute in a very definite manner. The Board stated that it believed the Institute could immeasurably expand its usefulness without changing the character of the Institute membership or giving up anything that it has achieved in its seventy-four years of existence.

Following the adoption of the resolution a joint meeting was held by invitation of the Board of Directors with those attending the informal gathering of State Societies and committees were appointed to work out a definite outline of procedure to be presented at the next annuall convention for adoption.

The committee consisting of five members of the Institute was accordingly named to work with a committee of seven members representing the State Societies. Edwin Bergstrom is chairman of the Institute Committee.

While no definite outline has been formulated thus far, the work of the committee will resolve itself into organizing Societies in all States. Nineteen States are now thus organized. It is intended to represent all architects and draftsmen throughout the United States. If this is consummated and there is every reason to believe that it will be, it will mean that the American Institute of Architects will be a nationwide organization with a membership of perhaps 30,000 to 35,000, who will speak for the profession.

* * *

TO most architects there has existed a barren desert between the young man beginning his profession and the matured practitioner, well established, and a member of the Institute. To the young man that success appears like a majestic mountain top bathed in a clear blue sky, where stars do not twinkle because there is no vibrating atmosphere and all seems quietude and repose.

To cross the desert and ascend this glorious mountain is every young architect's ambition. But as he draws near to the mountain it seems to recede and diminish in altitude. The view is no longer as grand as it was from the distant valley and the topmost point has vanished behind the nearer foreground. The valley of enthusiasm has been crossed and the wearisome toil up the grade along a torturous path begins. Only ambition carries him on. It is here that young men need help and support; help that comes from such an organization as the State Association; and an organization whose goal is to clear away illegitimate practices, champion the cause and personal interest of the young practitioner's welfare.

* * *

IN order to be of value to society every organization should supplement every other kindred branch of that organization having like purpose. There is ample need for co-operative organized work among architects, for when we consider the whole field of architecture, engineering and building and the many industrial relations upon which each necessarily depends there must be some veins of co-operation coursing through the whole building industry. There are other organizations for our common good that have well defined rules and regulations from which they cannot deviate and in which events must be taken as they come. Among these are the legislative branches, State Boards of Architectural Examiners, Contractors License Bureaus and other State controlled bureaus. With these the State Associations and Societies are better able to co-operate than is the Institute of itself.

* * *

The voice of the people when augmented by numbers, is keenly listened to in Legislative halls and they touch a responsive chord when they reach to the ballot. The follow-up service necessary to enforce legislation can best be applied through the larger organized groups. Professional and vocational standards, can be aided and abetted, when directed in the interest of laws regulating public safety and without bringing reproach upon the high standards maintained by the American Institute.

* * *

IT is true that a very small number of the architects embraced in these associations or societies are members of the Institute but a majority of the officials in each organization are members of the Institute. Because of this tie-up there is an abiding influence, a measuring stick, more or less unconsciously applied, but nevertheless potent in controlling the Associations principles of conduct. This safety measure cannot be ignored. It should not be ignored. On the other hand it should be emphasized over and over again that there must not be basic differences in principle. The one objective we seek is better architectural practice. In striving toward this objective a better professional relation is bound to be brought about by the co-operation of the Institute with the State organizations.

ROBERT H. ORR,
President, State Association California Architects.

RELATIONS of ARCHITECTS and CONTRACTORS*

by GEORGE W. KELHAM, Architect

ONE of the troubles with the building business at the present time is that the contractors do not really know how good they are. It is that very thought that leads me to believe that most of the real troubles between architects and builders can be rectified by an organization such as the Associated General Contractors of America if it wants to rectify them. If we architects and builders would get down to brass tacks and admit the things that we both do which are radically wrong, which never should exist and which make the building business today one in which the waste is probably more terrific than in any other single industry, I think we could cure a great many of our ills.

We architects have plenty of responsibility for existing relations. What happens? Take any ordinary building contract. Take one just as an example and follow it through.

An owner goes out and selects an architect. Sometimes he goes and selects a good architect. But frequently not. That architect makes some pictures and little sketches and intrigues the owner into thinking that he can make him the kind of a building he'd like to have.

Then the next question comes up. The owner asks, "Well, how much is it going to cost?"

The architect replies that he does not know, but he thinks it would cost about so-and-so, and after he gets a certain distance along with his sketches and plans he goes to some of you builders and asks you to make up some estimates which will determine whether his figures are approximately correct or not. Frequently the architect's figures are anywhere from 25 to 50 per cent too low. Do you builders tell that owner that the architect's estimates are 25 to 50 per cent too low and you can't possibly build a building like that? As a rule you do not!

You try your best, through some very distorted sense of loyalty to this alleged architect, to see if there might be a way to do it, to see if you can fix it up so it can be done. You figure that if this or that were changed, you probably could build the building.

When you get that far the architect goes back to the owner and says, "Well, I have just had some figures from such-and-such a very well known building firm and they think with a few changes here and there and doing a little to this and that they could build this building for about what I told you."

So the owner and architect go ahead. And the latter makes the drawings and gets them out for bids and of course the builders can't build the building for the amount the owner was led to expect.

Then one of two things happens: Either you builders shop bids around with the subcontractors until you get so you are ashamed to have them try to meet your figure; or else you tell them, "Well, boys, we won't have to carry this out just the way the specifications are. Those are the specifications, it is true, but this architect doesn't really mean to make you do quite all they say."

Sometimes the architect tells you that same story,—that you won't have to carry out his plans and specifications quite to the letter and you will probably be able to work the thing out.

I am perfectly willing to admit that that shoe is as likely to be on our foot as the foot of the builder.

*Notes from a talk before the convention of Associated General Contractors, San Francisco.

It seems to me that when negotiations reach that stage we have established right then and there a business relation which is impossible. It can't succeed. It is impossible from the architect's point of view and it is impossible from the general contractor's point of view, and every responsible contractor will admit, not in the best practice—not among contractors who are thoroughly familiar with their business and who conduct it on business principles.

But you constructors will admit that in our building industry there is an enormous amount of that sort of thing going on today. You will admit that there are contractors figuring on jobs who have no more business to call themselves general contractors than I have to run the Bank of England and you will admit that the waste of that thing is simply colossal.

I think that that really is the milk in the cocoanut regarding the business relations of the architect and the builder.

There are never any difficulties in the business relationships of a good builder and a good architect. I have never had, in 30 years' experience in dealing with general contractors, one single unpleasant experience that we couldn't iron out to our mutual satisfaction and have a fair settlement. I don't speak, therefore, with any bitterness or any personal feeling of regret that these conditions exist, but I do think that they are a menace to the building industry, and I further think that the Associated General Contractors, if it would, could make an enormous step toward wiping out this condition by telling owners the truth about architects and let us tell the truth about contractors.

I have been doing it for a long time. Hence, I have a lot of them who hate the sight of me. But I think that if you are really trying to give an honest bid to a man, when you get a set of plans from an architect and the plans aren't what they should be, are not properly drawn and the specifications are loose, it is your duty to go to the man and say, "Look here! This isn't a set of plans and specifications at all; it's just a lot of sketches."

If that were done more often, a lot of people making trouble in your business and also mine wouldn't find the sledding quite so easy. It is equally true that we should do the same thing and tell the truth about some, at least of the people who come into our offices and want to bid.

I may be wrong in this theory of mine which I have held for many years, but I know one thing: I am never going to change it because it has been borne in on me over and over again. Further, I think an organization locally can do very little. I do think a national organization such as the Associated General Contractors, containing some of the best known construction men in the United States, could and should get down to the personal element in our business relations.

ENGINEERS' BILL VETOED

A bill providing for the registration of professional engineers and land surveyors and requiring such engineers and surveyors employed on public works to be licensed, passed by the Ohio State Legislature, was vetoed by Governor George White. Various reasons were cited for the Governor's action, but the chief one was that it would permit a copartnership or corporation to engage in the practice of engineering.

"It has long been an accepted principle of jurisprudence that corporations should not engage in professional business. This principle is embodied in the general corporation law of the State, which provides that a corporation for profit may be formed under the laws of Ohio for any purpose except that of carrying on professional business," the Governor declared.

"The professional relationship is essentially a confidential relation to which an impersonal corporation cannot well be a party. The effort on the part of professional men generally to raise professional standards would be seriously hampered if this principle were not observed. To permit this inroad upon it would be very unwise."

A further reason given for the veto was that the bill would require the services of a professional engineer upon any public work costing more than $500.

S. F. ARCHITECTURAL CLUB

The following letter addressed to the publishers is self-explanatory:

On behalf of the San Francisco Architectural Club I am requested to convey to you their sincere thanks for the publication of the story concerning the past and present history of the Club, together with the fine illustrations of our new quarters.

Your kindness is appreciated most highly by every member of this organization and it has been a source of much encouragement to the Board of Directors for the very practical help rendered by our friends which we feel sure will contribute very largely to our future success.

Yours very truly,
F. MARSHALL SANDERSON,
Executive Secretary.

BOOK REVIEWS

By Edgar N Kierulff

Architectural Drawing (Perspective and Rendering) By Cyril A. Farey, R. I. B. A. and A. Tristan Edwards, M. A. Oxon. Published by Charles Scribners Sons, New York.

The authors, both British architects, have given in this volume, a survey of modern architectural draftsmanship embracing both its practical and theoretical aspects. The book is profusely illustrated with sketches, black and white drawings and several color plates. The chapters are devoted to a contemporary work, with an analysis of problems.

The appendix provides an example most practical of a method of setting up a perspective drawing in its several stages. There is an extensive bibliography on pages 88 to 91. Altogether this volume is an able treatise on its subject matter and an excellent handling of a difficult problem.

Metal Plate Lithography (For Artists and Draftsmen) By C. A. Seward. Published by Pencil Points Press, Inc., New York. (No price).

The foreword of this interesting book very aptly states that in all probability the most abused of all the graphic arts, is lithography, while it is the simplest and the most wonderful.

The book has, as the reviewer sees it, a threefold purpose in being an answer to many questions on the application of this art, in supplying the artist with a necessary elementary knowledge of the process and in supplying a text or reference book for the more sophisticated worker.

There are besides the various steps in technique, some excellent examples of lithographic work on several subjects, thereby greatly enhancing the value of the book.

As an aid to a better knowledge of the lithographic art and as a means of giving an impetus to artistic expression, this book should prove invaluable.

Modern Heating Standards By J. R. Armstrong, B. S.-M. E. Published by the C. A. Dunham Co., Chicago, Ill.

A small but very compact and well printed and bound booklet. It embraces, as its title suggests, modern heating standards and practice and sets forth some splendid information under several headings, such as: Fuel Economy Placed on a Definite Basis; The Differential Vacuum Heating System; Variables of Heating Capacity.

This book should be a forerunner of others and the Dunham Company has shown progressiveness in placing at the disposal of the architectural and engineering profession a valuable work.

Twenty-Sixth Annual Report of the Bethlehem Steel Corporation. (Fiscal year ended December 31st, 1930).

A most interesting and illuminating contribution which gives an account of the operations, revenues, etc., of one of the greatest industrial organizations in the world.

Persons not interested particularly in the steel industry, will, however, find in this report a reflection of the nation's business and will gain a comprehensive idea of how great corporations function. We suggest that this report be procured from the Bethlehem Steel Corporation at their New York City office, 26 Broadway, for it constitutes a fair barometer of industrial progress in America today.

Portland Cement Stucco and Terrazzo Specifications—Published by Medusa White Portland Cement Company.

The above two brochures are especially well thought out and are highly interesting from an illustrative as well as from a technical standpoint.

In the first brochure there is an explanation of the name Medusa entitled "Why the Name Medusa," a bit of well chosen Greek mythology.

The terrazzo brochure shows some color plates and gives detailed specifications in somewhat abbreviated form. To contractors and architects these two papers should prove of interest and may be obtained from the Medusa Portland Cement Company, 1002 Engineers Building, Cleveland, Ohio.

25,000 CHAIRS FOR BALL PARK

One feature of the new San Francisco Baseball Park that the engineer and owners are to be commended on, along with many others, is the seating. For the first time in the history of such structures the comfort of the patron has been seriously considered.

The selection of the American Seating Company to supply these 25,000 chairs indicated a desire to have the best obtainable.

HUGE SARCOPHAGUS OF VERMONT MARBLE WHICH IS TO REPLACE TEMPORARY TOMB AT ARLINGTON NATIONAL CEMETERY

FIFTY-SIX TON BLOCK OF MARBLE FOR TOMB OF THE UNKNOWN SOLDIER

THE gigantic block of white marble which is to complete the Tomb of the Unknown Soldier in the Arlington National Cemetery, is now at the West Rutland plant of the Vermont Marble Company for preliminary finishing. From there it will be sent to the main shops of the Vermont Marble Company in Proctor, Vermont, where it will be carved and completed and then sent to Washington, D. C., to replace the present temporary tomb.

This enormous block, weighing fifty-six tons, is believed to be the largest single piece of marble ever quarried, and the work of getting it out of the ground and into the mills and shops called for special equipment and machinery. On account of the great size, as well as the texture and sculptural quality necessary, it has taken many months to quarry a block that would meet the requirements.

When it leaves the Vermont shops this mammoth sarcophagus will be shipped to Washington, where additional delicate carved work will be done by Piccirilli Brothers, world-famous workers in stone, under the direction of the sculptor, Thomas Hudson Jones of New York.

It was in 1921 that the Unknown Soldier was brought home to rest in the Arlington Cemetery Later, after the Government had provided a fund for the purpose, the leading designers of the country were asked to submit competitive plans for a memorial. Among the seventy-three designs thus submitted, the sarcophagus which is now being finished from this block of white marble, won the place of honor.

The completed Tomb of the Unknown Soldier, built entirely of marble, will occupy its old place at the Arlington Memorial entrance, but will have a somewhat different setting. A broad flight of steps will lead up to it from a level twenty feet below, and a new road will be constructed so that people who visit it may approach from the most impressive angle. The end of the monument which faces the road and looks out across the Potomac toward the National Capital will have sculptured figures raised in high relief representing Victory, Peace and American Manhood. The other end is reserved for the inscription, while on the sides, set apart by Doric pilasters, are six carved wreaths, symbolizing a world of memories.

The finished tomb, including sarcophagus, cap and bases, will be approximately sixteen feet long, ten feet wide and eleven feet high. It was designed by Lorimer Rich, a New York architect. The finishing of this last piece of work which will complete the Tomb of the Unknown Soldier and the Arlington Memorial was made possible through a Congressional appropriation of $50,000.

FAVOR CENTRALIZED TRAINING

In support of the contention of educational leaders that it is inadvisable for secondary schools and junior colleges to attempt to duplicate the training courses of the larger universities for students expecting to enter the professions, California architects have endorsed a resolution that all except the most elementary technical courses in architecture be confined to the universities of the State.

Northern California Section of the State Association of California Architects, with the approval of the directors of the Northern Chapter of the American Institute of Architects, has addressed the following communication to Robert Gordon Sproul, President of the University of California:

WHEREAS, the educational committees of both the Southern and Northern Sections of the State Association of California Architects have made a study of architectural education in secondary schools and junior colleges, and

WHEREAS, the findings of these committees indicate that efforts to prepare students in secondary schools and junior colleges for professional architectural practice seem generally inadequate, and

WHEREAS, adequate professional training in architecture requires highly qualified instructors and association with the more mature, talented students only obtainable in institutions offering courses of graduate university standing, and

WHEREAS, existing well equipped and well staffed schools of architecture in two California universities now offer adequate professional training in architecture, and

WHEREAS, these established professional high standards without student enrollments more than sufficient to supply the schools cannot maintain their present necessary personnel in the field of professional practice of architecture, and

WHEREAS, these existing professional schools, due to their high standards, are deserving of all obtainable support, and

WHEREAS, fairness to the public and to the architectural profession in California would discountenance inferior training and low professional standards, therefore be it

Resolved, that this Association do all in its power to advise school authorities against attempting more than elementary technical training in architectural subjects in secondary schools, and be it further

Resolved, that this Association is desirous of encouraging courses in secondary schools and junior colleges for vocational training in the building trades, in the graphic arts and draughtsmanship and in the general appreciation of art and architecture, and be it further

Resolved, that this Association believes that the teaching of architecture as a profession should be confined in this State to the two present and well established schools of architecture in the University of California and the University of Southern California, which schools are members of the American Association of Collegiate Schools of Architecture and are recognized by the American Institute of Architects and by the California State Board of Architectural Examiners.

WITH *the* ARCHITECTS

OAKLAND RESIDENCES

Willis C. Lowe, architect, Builders Exchange Building, Oakland, has been commissioned to prepare plans for a group of 25 or more residences to be built in the Idora Park Tract, Oakland. The dwellings will be for private owners as well as for the Fred T. Wood Company and will vary in cost from $4000 to $7500 each.

DEPARTMENT STORE CHANGES

Plans for alterations and additions to the department store of J. F. Hink & Son, Berkeley, have been prepared by W. H. Ratcliff, Jr., Chamber of Commerce Building, Berkeley. The same architect has plans on the boards for an addition to the Art Building at Mills College.

OAKLAND ARCHITECT BUSY

Leonard H. Ford, 1485 Harrison Street, Oakland, reports considerable new work in his office, including an addition to one of the downtown hotels, estimated to cost $200,000; an apartment house to cost $100,000; a residence in Livermore and a Spanish dwelling in Orinda.

TO DESIGN SCHOOL BUILDING

Henry C. Smith and A. R. Williams, 785 Market Street, San Francisco, have been commissioned to prepare plans for a brick elementary school and auditorium in San Luis Obispo County, for the Arroyo Grande School District. A bond election will be held June 4th.

LAS VEGAS DEPOT

Gilbert Stanley Underwood, architect, of Los Angeles, has completed plans for a one and two-story Class C depot and office building, for the Union Pacific Railroad at Las Vegas, Nevada, estimated to cost $100,000.

STORE ALTERATIONS

Plans have been completed by Walter C. Falch, architect, Hearst Building, San Francisco, for alterations and additions to a store building, owned by M. C. Harrison, on 12th Street, east of Washington, Oakland.

WALKER AND EISEN BUSY

New work in the offices of Walker and Eisen, architects, Western Pacific Building, Los Angeles, includes several theater projects for United Artists, Inc., in various parts of the state; also, a two-story Class B warehouse in Los Angeles for the Braun Corporation and a twelve-story $500,000 hotel at Phoenix, Arizona, for J. E. Blad.

COLLEGE CHAPEL

Arnold Constable, architect, 580 Market Street, San Francisco, is preparing sketches for a chapel which is to be erected near the administration building on the campus of the Dominican College, San Rafael. Building will be of the English type and constructed of stone.

FRUIT EXCHANGE BUILDING

The California Fruit Exchange is having plans prepared by Starks and Flanders, architects, Forum Building, Sacramento, for a one-story Class A reinforced concrete office building at 10th and N Streets, Sacramento. The estimated cost is $85,000.

COLLEGE LIBRARY

Plans have been completed by Gordon B. Kaufmann, architect, Union Bank Building, Los Angeles, for a reinforced concrete library at Claremont, California, for the Pomona and Scripps Colleges.

PLANS COMPLETED

Ray R. Irvine, Call Building, San Francisco, has completed plans for a $50,000 frame and stucco apartment building to be built at Fillmore and Jefferson Streets, San Francisco, for Martin Muller.

HILLSBOROUGH RESIDENCE

Albert D. Simpson is having plans drawn by William W. Wurster, architect, 260 California Street, San Francisco, for a two-story stucco residence in Hillsborough, estimated to cost $25,000.

MONTANA ARCHITECTS NAMED

The Montana State Board of Examiners at Helena has announced the selection of architects for State projects as follows:

Shanley, Willson and Hugenin, with headquarters at Butte, for the hospital at Warm Springs, the new construction to include quarters for the doctors and office help, a male dormitory, male receiving hospital, male day hall, female dormitory and porches, general shop, bath house, and remodeling two buildings, at a total cost of $400,750.

George H. Carsley, Helena, was chosen to design the tuberculosis sanitarium at Galen, including a 150-bed hospital, a doctor's cottage, garage and remodeling the employees's cottage and converting the carpenter shop into an apartment. This work will cost $180,000.

Norman DeKay of Helena will supervise a $76,260 job at the orphans' home at Twin Bridge, and a $55,833 school for deaf and blind at Boulder.

Link, Inc., of Billings, will design two cottages at the Industrial School at Miles City, to cost $67,105.

GRANTED CERTIFICATES

California State Board of Architectural Examiners has granted provisional certificates to the following:

Southern District—C. DeMund Bogert, 2062 New York Avenue, Pasadena; Walter L. Culver, Jr., 105 East Avenue 38, Los Angeles; Joseph W. Potter, 1665 Ninth Street, San Diego; Homer D. Rice, 741 South Alvarado, Los Angeles.

Northern District—Romualdo Jose Blas, 251 Kearny Street, San Francisco; Floyd B. Comstock, 5827 Patton Street, Oakland; Arthur F. Dudman, 1729 Arch Street, Berkeley; Herbert E. Goodpastor, 1073 Hubert Road, Oakland; Conrad F. Temple Kett, 925 San Benito Road, Berkeley; Wallace A. Stephen, 2025 Carmelita Avenue, Burlingame.

FRIENDLY SUIT

S. Charles Lee states that the suit filed by him against the Los Angeles Theater and the Gumbiner Theatrical Enterprises, Inc., for architectural services on the theater, was filed on a friendly basis with the knowledge and consent of H. L. Gumbiner, to preserve his status pending new financial arrangements.

CONVENTIONS, COMPETITIONS, ETC.

May-August	Art Exhibition, Royal Scottish Academy, Edinburgh.
June 1-5	International Town Planning and Housing Federation Congress, Berlin.
July 10-Aug. 30	Vacation-study tour of housing, arranged and directed by The Garden Cities and Town Planning Association, London, in cooperation with the City Affairs Committee, 112 East 19th Street, New York City. For information, address Helen Alfred, Housing Chairman.
October 1	Closing date for entries for Lincoln Arc Welding Prize competition. Address inquiries to the Lincoln Electric Company, Cleveland, Ohio.
October	Annual Convention State Association of California Architects at Riverside.
November	Exposition of Indian Tribal Arts, Grand Central Art Gallaries.

WILL TOUR EUROPE

Kenneth Anderson and Perry Johanson, awarded traveling scholarships by the Department of Architecture, University of Washington, left last month for Europe. Their first port of call will be Oslo, Norway. After spending a few weeks there they will visit Sweden, Germany, France, Switzerland, Italy and possibly England.

ELEVEN MONTHS ABROAD

Richard J. Neutra, architect, of Los Angeles, has returned from an eleven months' tour of Europe and the Orient. Mr. Neutra attended the Congress of Progressive Architecture in Brussels last November and while in Vienna designed a model housing colony for the municipality.

VISIT HOOVER DAM SITE

Members of the Engineers' Club of Los Angeles recently journeyed by automobile to the site of Hoover dam. The party stopped en route at Victorville to inspect the plant of the Southwest Portland Cement Company. It is planned by the Club to make the visit to Hoover dam site an annual event.

THEATER CHAIN COMMISSION

Thomas and Mercier, Inc., architects, of Portland, Oregon, have been retained to draw plans for the Hughes-Franklin theater chain in the Pacific Northwest.

BANK BUILDING

B. Marcus Priteca, architect, of Seattle, has been commissioned to design a new $100,000 bank building in Los Angeles for the Canadian Bank of Commerce.

ARCHITECTS ATTEND CONVENTION

The recent Institute convention at San Antonio, Texas, was attended by the following California architects: H. C. Chambers, President; H. Roy Kelley, Secretary, and Palmer Sabin, Treasurer of Southern California Chapter; William Richards, David J. Witmer, Fitch H. Haskell, Charles H. Cheney and A. M. Edelman, all of Los Angeles; Edwin Bergstrom, National Treasurer, member of Southern California Chapter, and Frederick H. Meyer of San Francisco, Regional Director; Russell Ray, President of Santa Barbara Chapter, and Wm. Templeton Johnson, President of San Diego Chapter; William Mooser of San Francisco and Ralph Wyckoff of San Jose as delegates from San Francisco Chapter.

Robert H. Orr, President of the State Association of California Architects, attended as a delegate from that Association to the first national convention of the State Associations of Architects, which was held the day preceding the Institute convention. There are now 19 State Associations and about 25 Regional Associations, whose membership is open to all architects.

H. C. BAUMANN BUSY

H. C. Baumann, architect, 251 Keary Street, San Francisco, reports apartment house work in his office aggregating more than $1,000,000. The list of new structures includes a six-story steel frame apartment house to be built at Broadway and Gough Street, San Francisco, for Mrs. Joie Exnicious; a seven-story steel frame and reinforced concrete apartment building at Grove and Fillmore Streets, for Epp & Riebman; a Colonial brick veneer residence in Seacliff to cost $25,000; an apartment building in Sunnyvale to cost $60,000; a six-story Class C apartment building at Walnut and Clay Streets for I. Epp; a three-story and basement frame and stucco apartment building, Twenty-five Avenue, north of Fulton Street, for O. M. Oyen, and a five-story and basement concrete apartment building at Pacific Avenue and Gough Street for Peter Middust.

POULTRY FARM

Construction will start shortly on the first unit of a poultry farm at Concord, Contra Costa County. The owners are the Havens Poultry Company, Inc., 1510 Franklin Street, Oakland. The cost of the first unit will be $125,000.

PERSONAL

Richard Lytel, former Fountainebleau scholar of the Department of Architecture, University of Washington, has joined the staff of the United Engineers & Constructors, Inc., one of the largest construction firms in Philadelphia. He was employed by Stimson & McDonald, architects, with offices in the Vance Building, Seattle.

Oscar R. Thayer, architect, announces the removal of his offices from 110 Sutter Street to the Bourn Block, 320 Market Street, San Francisco.

Robert Nordin, Mills Building, San Francisco, has been granted a provisional certificate to practice architecture by the State Board of Examiners.

Lawrence B. Clapp has opened an office for the practice of architecture in the La Placita Building, 740 State Street, Santa Barbara. Mr. Clapp would be pleased to receive building trade catalogues and samples.

Paul L. Dragon and C. R. Schmidts, associate architects announce the removal of temporary offices from 222 Kearny Street, San Francisco, to permanent offices in 403 Mercantile Bank Building, Berkeley.

Parker O. Wright, architect and engineer, has moved from 1133 Central Building to 910 Black Building, Los Angeles. Mr. Wright has discontinued his Long Beach office.

Joseph C. Lonqueville, architect, and Theodore I. Scott announce the removal of their office to 938 Huntington Drive, near Chelsea Road, San Marino.

U. O. Long, architect, has moved from Alhambra to Room 207, 624 South La Brea Avenue, Los Angeles.

BERKELEY RESIDENCE

Plans have been completed by William C. Ambrose, architect, 605 Market Street, San Francisco, for an $18,000 residence for Professor B. H. Cocheron, to be built on Hawthorne Terrace, Berkeley. Construction contracts have already been entered into and work is underway.

BUNGALOW COURT

Plans have been prepared by Ernest L. Norberg, 580 Market Street, San Francisco, for a $60,000 bungalow court in San Carlos.

STATE TO DESIGN OWN BUILDINGS

There will be no more private architects appointed to design California State buildings, for the present at least, according to Colonel W. E. Garrison, State Director of Public Works, and Rolland A. Vandergrift, Director of Finance.

"In awarding contracts for several projects to private firms early this year," said Colonel Garrison, "we were carrying out the wishes expressed by President Hoover and Governor Rolph to speed up public building projects in order to relieve unemployment.

"The architectural work for these buildings could not in our opinion have been prepared in the offices of the State Division of Architecture with sufficient speed to provide unemployment relief to the extent desired by the Governor. Therefore, private architects were employed to put the work in readiness at the earliest possible date.

"However, in future construction, we are not going to let contracts to private firms whenever it is possible to have that work performed expeditiously by the men in the Division of Architecture."

Following the announcement that forty men stood in danger of losing their positions in the Division of Architecture by August 1st because of the letting of the contracts to private firms, Director of Finance Vandegrift said that every possible effort will be made to retain as many of the State employees as possible.

"However," he stated, "it would be indefensible from the standpoint of economy and good business to retain employees when there is no work for them to perform."

Among two major architectural projects listed by Vandegrift as being in the office during the biennium are the new State hospital in Southern California and the prison for first offenders.

The State officials said that plans for both of these would be kept in the State architectural office if it is able to handle the job, and it was generally agreed in the Capitol that the division will be in a position to take care of all future work.

Threats of a lay-off of 50 per cent of the State architectural staff grew out of the action of the Senate Finance Committee in slashing $140,000 from the general support budget of the division.

This reduction was recommended by Vandegrift in view of the fact the preparation of plans for twenty-five major projects is being performed by private firms, and thus, it was contended, the additional support, principally for salaries, was not needed.

The Legislature passed a special appropriation bill of $200,000 to defray the fees of the private architects.

OBITUARY

William S. Richardson

William Symmes Richardson, distinguished architect of New York, and former University of California man, died in Rome, Italy, April 15. Mr. Richardson designed the Court of Honor and Column of Progress at the Panama-Pacific Exposition in San Francisco in 1915.

He was born in Kingston, Mass., in 1873. He came to California as a boy, took his preliminary college work at the University of California and subsequently studied at the Massachusetts Institute of Technology and the Beaux Arts in Paris. He joined the firm of McKim, Mead & White in 1906 and was the chief designer of the Hotel Pennsylvania.

Six years ago Mr. Richardson retired and went to Rome to make his home with his father and sister. He had suffered as the result of an accident for some years. He was an honorary corresponding member of the American Institute of Architects.

Creston H. Jensen

Creston H. Jensen, 43, architect, of San Francisco, died early in April, following a lingering illness.

Mr. Jensen practiced architecture in the San Francisco Bay district for twelve years. He specialized in church work, having prepared plans for many structures undertaken by the Roman Catholic Archbishop of San Francisco, including buildings at Salinas, Alameda, Mountain View, Concord and San Jose. He was an alumnus of the University of California.

Robert Greig

Robert Greig, chief inspector of the State Housing Commission and for many years chief building inspector for the city of Berkeley, died in an Oakland hospital recently from injuries received when he was run down by an automobile near the State Building in San Francisco.

As a contractor Mr. Greig built the Berkeley City Hall, the old Berkeley Library, Barker Block, Masonic Temple and several of the old structures on the University of California Campus.

Mr. Greig was recognized as an authority on building codes and many of his suggestions were incorporated in the present State building regulations.

WILLIS A. RITCHIE

Willis A. Ritchie, retired architect of Spokane, died January 16, aged 64. He had lived in Spokane 40 years. First locating in Seattle, he gave his attention to public construction, which included the King County courthouse at Seattle, Whatcom County courthouse at Bellingham and other public buildings at Vancouver, Port Townsend, Olympia and Orting. In Spokane he designed the county courthouse and many other projects in the Inland Empire.

FLATS AND RESIDENCE WORK

Charles S. Strothoff, architect, 2274 Fifteenth Street, San Francisco, has completed drawings for a two-story frame and stucco flat building to be built on Lombard Street, near Steiner, San Francisco, for E. Landucci. Mr. Strothoff has also completed plans for an $8,500 dwelling in Millbrae Highlands for George Wale.

HALL OF RECORDS, MARTINEZ

E. Geoffrey Bangs, architect, 411 Thirtieth Street, Oakland, has been commissioned by the supervisors of Contra Costa County to prepare plans for the new Hall of Records, Martinez, estimated to cost $500,000.

AUTO SALES BUILDING

Plans have been completed by Claude M. Barton, architect, 522 Grand Avenue, Oakland, for a $50,000 auto sales building and garage for the Acme Motor Company at Vallejo.

SCHOOL ADDITION

William Herbert, architect, Rosenberg Building, Santa Rosa, has completed plans for a $15,000 shop addition to the Santa Rosa high school.

STORE BUILDING

C. W. McCall, architect, of Oakland, is preparing plans for eight stores to be built near the Federal Building, Oakland.

PRIZES FOR QUANTITY SURVEYORS

The American Institute of Quantity Surveyors is offering prizes for the best quantity surveys on each trade in the building industry. This competition is open to all quality surveyors and estimators connected with building construction. Contestants are requested to forward their surveys to the secretary, F. E. Dischner, 910 Empire Building, Detroit, Mich. The competition closes May 15th and the winners will be announced at the Sixth Annual Convention of the Institute May 25, 26 and 27, at Netherlands Plaza Hotel, Cincinnati, Ohio.

NOFUZE LOAD CENTERS

The Westinghouse Electric and Manufacturing Company announces a new eight-page, illustrated publication, identified as Circular 1913, covering Nofuze load centers, groups of small circuit-breakers, or "Flipons," used for the protection of branch circuits in homes, buildings, garages, small schools, farms, stores, factories, etc. The publication describes the construction and operation of Nofuze load centers, and includes considerable application data. A table gives the various types and sizes of this equipment.

COUNTY HOSPITAL

F. J. DeLongchamps, architect, of Reno, has been commissioned by the Washoe County Commissioners of Nevada State to prepare plans for a new county hospital to be erected just east of the present structure in Reno.

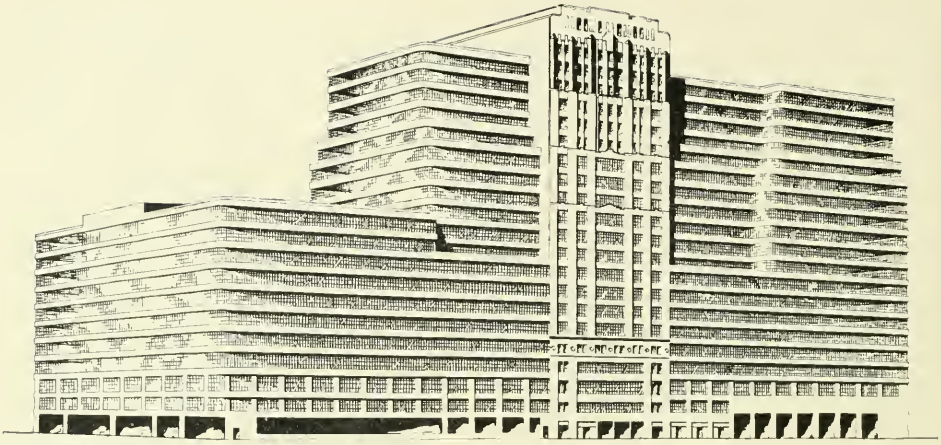
The hospital will have a capacity of fifty beds and will be of modern construction. The cost is estimated at $140,000.

ARCHITECT FOR BOHEMIAN CLUB

Lewis P. Hobart, architect, of San Francisco, has been commissioned to prepare plans for the new Bohemian Club Building to be erected on the site of the present club home at Post and Taylor Streets, San Francisco. The building and furnishings will cost in the neighborhood of $1,000,000.

SCHOOL BONDS CARRY

By a two to one vote citizens of Los Angeles have approved high school and elementary school bond issues totaling $12,720,000. Plans will be prepared by various Los Angeles architects.



STARRETT-LEHIGH TERMINAL, NEW YORK, N. Y.
W. M. Cory, Architect

Design of Terminal Building Reflects Modern Influence

THE drawing pictured above shows the new Lehigh Terminal Building in New York, which was described in this magazine last month, but unfortunately the illustration presented in the same number was the Beau Arts Apartments, Kenneth Murchison and Raymond Hood, architects, instead of the Starrett-Lehigh structure designed by W. M. Cory, architect.

The Starrett-Lehigh Terminal Building is modern, some may even call it modernistic. It combines in its construction two of the latest contributions to present day architecture,—the set-back principle, which is purely American, and the highly accentuated horizontal lines that are so prominent in the best examples of European construction.

The feature of this building is the entire absence of the vertical lines or supports in the wings. The cantilevered walls consist of alternate horizontal strips of stone and continuous runs of Fenestra type horizontally pivoted steel windows.

The large window expanse naturally reduces the weight of the exterior walls to be supported by the cantilever arms, with a corresponding saving in the cost of the structural steel.

NOTE SIMILARITY OF CONSTRUCTION OF TERMINAL BUILDING (above) AND THE EXCLUSIVE BEAU ARTS APARTMENTS, NEW YORK CITY (below).

BEAU ARTS APARTMENTS, NEW YORK, N. Y.
Kenneth Murchison and Raymond Hood, Architects

SOCIETY and CLUB MEETINGS

NORTHERN CALIFORNIA CHAPTER

The regular monthly meeting of the Northern California Chapter, the American Institute of Architects, was held at the Mark Hopkins Hotel, San Francisco, on the evening of March 31st.

Announcement was made of the death of Creston H. Jensen, Associate, and expression was made by fellow members of his loyalty and service in the profession and of the many qualities which had endeared him to his acquaintances. It was directed that a letter in keeping with the voiced sentiment of the meeting be sent to his family and that adjournment be in respect to his memory.

Mr. Garren introduced a motion, which was unanimously carried, that a letter be sent to John J. Donovan, commending his recent action in relinquishing a large commission because of his connection with the California State Board of Architecture and the principle involved in the matter.

There was no other regular business and the meeting continued with a talk by H. G. Claudius of the Guaranty Building and Loan Company of Oakland. In explaining the layman's point of view in respect to architectural services, he stated that the public is strongly influenced by price and buys on price rather than quality. It was interesting to his listeners to be told that the finance companies consider quality and that competent plans, specifications and supervision will insure a loan 10% larger than for undirected construction. He suggested that clients should be advised of this means, whereby an architect's services can be secured for an immediate outlay no greater than would be incurred for a pseudo-architect.

Stock plans of service bureaus, magazines and contractors were grouped alike. To the finance company, these carry no protection of supervision, and are apt to become more quickly obsolete in style.

Such factors are all taken into consideration in the determination of a building loan. J. H. M.

SOUTHERN CALIFORNIA CHAPTER

The April meeting of Southern California Chapter, A. I. A., was given up largely to reports of the delegates to the 64th annual convention of the American Institute of Architects held at San Antonio, Texas, April 14, 15 and 16.

President H. C. Chambers, who presided, made a few remarks pertaining to the trip, and then called on each delegate for a brief report on assigned subjects. Fitch H. Haskell reported on the city of San Antonio, Charles H. Cheney on city planning, H. Roy Kelley on the relation of the architect to his community, Palmer Sabin on the open forum, A. M. Edelman on the National Council of Registration Boards, David J. Witmer on the small house bureau, and William Richards on the conduct of the delegates.

Robert H. Orr, president of the State Association of California Architects, who attended the convention in the interests of the Association, reported on the informal meeting of State Associations of Architects held in San Antonio, and progress made toward the unification of the architectural profession.

Edwin Bergstrom, national treasurer of the Institute, announced that the convention adopted resolutions memorializing Congress to give recognition to private architects on Federal building work. Further resolutions were adopted setting forth a similar policy in connection with state, county and municipal government building. Mr. Bergstrom also advised that representatives of the Producers' Council, Associated General Contractors, and Engineers' Council were to meet with President Hoover, at which time this problem would be laid before him.

Resolutions were adopted instructing the secretary to forward a communication to Governor Rolph, requesting that he sign Assembly Bill 487, amending the act regulating the practice of architecture; Assembly Bill 615, amending the engineers' license act of 1929; and Assembly Bill 616, amending the engineers' registration act, defining the term civil engineer, and other clarifying amendments. All three bills have passed both branches of the Legislature.

The death of Mrs. A. F. Rosenheim was announced and resolutions of condolence adopted.

Resolutions were adopted instructing the secretary to send a letter to John J. Donovan, copies to be sent to the Governor and the press, expressing appreciation of Mr. Donovan's recent action in sacrificing a very fine commission from the Supervisors of Contra Costa County, because as a member of the State Board of the Northern District he had heard charges preferred against the architect to whom the job was originally awarded, but who had resigned.

Reginald D. Johnson told of his recent trip to Washington and the ceremony at which he was presented a gold medal as first award in the 1930 small-house architectural competition conducted by "Better Homes in America." The presentation was made by President Hoover.

Louis J. Gill, member of the San Diego Chapter, attended the meeting.

Before adjourning the meeting was addressed by Paul E. Jeffers, structural engineer, on "Metalography of Welded Steel."

The following members and guests were present: A. M. Edelman, Kemper Nomland, Carleton M. Winslow, Palmer Sabin, Eugene Weston, Donald McMurray, Breo Freeman, Pierpont Davis, Fitch H. Haskell, Sumner P. Hunt, William Richards, H. Roy Kelley, Charles H. Cheney, Horatio W. Bishop, M. L. Barker, Jonathan Ring, Paul J. Duncan, Arthur L. Acker, L. H. Lippiatt, C. R. Johnson, Samuel E. Lunden, A. R. Monaco, Robert H. Orr, Edwin Bergstrom, Paul E. Jeffers, Louis J. Gill, H. C. Chambers, J. E. Allison, Reginald D. Johnson, A. C. Weatherhead, Myron Hunt, David J. Witmer, R. Germain Hubby, A. S. Nibecker, Jr., Ralph C. Flewelling, Sumner M. Spaulding, J. E. Byers, Scott Gerity, L. A. Parker, Alexander N. Knox, William H. Kreamer, Henry F. Withey.

OREGON CHAPTER

The regular monthly meeting of Oregon Chapter A. I. A., was held during the luncheon hour at the University Club, Portland, April 21.

Present were: Messrs. Doty, Johnston, Forrest, Morin, Johnson, Howell, Bean, Linde, Wallwork, Parker, Whitney, Aandahl, Stanton, Church, Tucker, Herzog, Crowell, Holford, Lawrence, Newbeury, Roehr. President Doty presided.

Chairman Johnston of the Exhibition Committee reported his committee had sent out notice to members of the exhibit to be held the latter part of May and were making arrangements for space in which to hold it.

In the absence of Chairman James of the Building Laws Committee, Mr. Howell made a brief report of the committee's work on the proposed housing code. President Doty asked Mr. Holford to tell something of the executive committee and of the City club. Holford emphasized the need of establishing an advisory board, or board of appeal, and expected the City club to favor a board of five. Johnston asked about the employment of a paid expert. President Doty explained that the executive committee had thought it best policy to concentrate on a board of appeal at this time. Mr. Linde pleaded for more aggressive policy by the Chapter and more authority for the Building Inspector. It was moved by Mr. Whitney and passed that the secretary arrange for a joint meeting of the code committees of the various organizations interested.

It was moved by Mr. Whitney and passed that the Chapter definitely go on record as in favor of an advisory board. Mr. Herzog declared himself in favor of a complete revision of the building and housing codes and not patch up the proposed housing code. Other speakers were Messrs. Parker, Bean, Johnson and Wallwork.

Chairman Stanton of the Public Information Committee, reported his committee was considering methods such as building a model house, lectures at intervals and the continuance of articles in the newspapers.

President Doty requested the Entertainment Committee to take charge of arrangements for a golf tournament.

Mr. Lawrence, just returned from the National A. I. A. Convention at San Antonio, Texas, gave a brief report. Texas has branch Chapters in small cities and all members sign an agreement on ethics; Saarinen gave a very interesting address; Federal building program was the most discussed subject; Building Congress movement growing rapidly throughout the country; Chapters should be formed in schools of architecture; State associations of architects approved by convention; Some means should be devised by Oregon Chapter to finance at least one delegate to each convention.

Meeting adjourned. —W. H. C.

ÆTNA spent a year trying to find a better floor for the same money— or as good a floor for less

LARGE corporations are accustomed, it would seem, to spend time before spending their money.

Aetna Life investigated for upwards of a year trying to find a better buy than Sealex Battleship Linoleum. It couldn't be done. Western Union even went so far as to conduct actual service tests with many floor materials. Sealex Floors won this competitive contest also!

City Bank Farmers Trust Co., Standard Oil, Equitable Life, Westinghouse, are other leaders who have chosen Sealex Battleship Linoleum. Purchasing floors by the acre, these buyers could not afford to make mistakes. Instead of cheap hard floors they chose the long-run economy of durable resilient floors —shock-absorbing, noise-reducing floors that increase employee efficiency.

Address inquiries to our Architectural Service Department. Ask about Bonded Floors — Sealex materials backed by a Guaranty Bond.

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LINOLEUM FLOORS

New building of Aetna Life Insurance Co., Hartford, Conn. Architect: James Gamble Rogers. General Contractor: George A. Fuller Co. 270,000 square feet of Sealex Floors installed by G. Fox & Co., Hartford.

American Institute of Architects

(Organized 1857)

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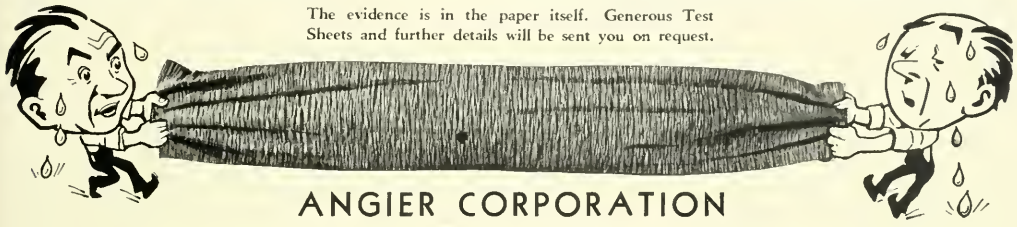

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MORE ANENT ARCHITECTS' INSTITUTE

Stanley A. Smith, head of the Department of Architectural Engineering, State College of Washington, conducted the second annual Institute for Architects at Pullman and Spokane March 20th and 21st.

The first day's program, held at Pullman, was marked by a banquet attended by fifty-five architects and students and faculty members from the University of Idaho.

The second day's program, held in Spokane, opened with a forceful talk by Roland E. Borhek of Tacoma, President of the Washington Chapter of the American Institute of Architects.

Pointing out that only 20% of the building public retain architects to design their structures, Mr. Borhek advocated a national campaign of advertising to create demand for architects' service. In support of this view he pointed to the widespread campaign of American musicians who are building up audiences by means of advertising.

Referring to the fact that the Tennessee Chapter of the A. I. A. is spending $15,000 this year for advertising, Mr. Borhek inferred that it might be highly desirable for the Washington State Chapter to undertake an adequate educational campaign of a similar nature.

"Architects shy at the word advertising," he told those present. "When you mention it they stuff their ears with cork and turn their backs on you. They think paid advertising is unethical. Yet the American Institute pays a publicist $10,000 a year; that is paid advertising even if it is slipped in as news."

Mr. Borhek also urged that the National Institute continue its campaign to have private architects employed for Federal buildings.

F. H. Bosworth, dean, School of Architecture, Cornell University, called attention to the fact that architecture of any period in history is the architecture which the people demand.

The Pacific Northwest, he said, very probably is in the second generation beyond the frontier period. In the frontier period, he pointed out, architecture consisted of log cabins and other temporary shelters. In the second generation more permanent buildings were erected. These, for the most part, were inspired by the architecture of older and more fixed governments, the architecture of Rome and Greece being used primarily to symbolize the idea that this new government was to be fixed and permanent. We are now in the third

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generation, he said, which no longer needs to be inspired by the older civilization, but which prefers to speak for itself.

Roy C. Jones, Professor of Architecture, University of Minnesota, spoke somewhat along the same lines, stressing what he considered would be the duties of the architect in the future, rather than discussing the architecture of the future.

WASHINGTON STATE SOCIETY

The regular meeting of the Washington State Society of Architects was held at the Gowman Hotel on the evening of April 9th, John S. Hudson presiding.

Informal talks were given upon what the lecture of Frank Lloyd Wright had brought to the members as individuals.

It was suggested that instead of holding no summer meetings this year there should be one meeting monthly in order to be better prepared for real work this fall.

CONVENTION DELEGATES

Delegates from the State of Washington to the A. I. A. convention at San Antonio, Texas, April 14 to 16, included three officers of the Washington Chapter: J. Lister Holmes, First Vice-President; Lance E. Gowan, Secretary, and Stanley A. Smith, Third Vice-President and head of the Department of Architectural Engineering, State College of Washington.

LAS VEGAS BUILDING BOOM

Las Vegas, Nevada, is enjoying a building boom, due undoubtedly to its near proximity to the new Boulder Dam. Besides a new passenger and freight depot, a $225,000 hotel is planned for early erection. The architect, Clarence E. Noerenberg of Los Angeles, is at work on the plans which call for a seven-story building.

ADDITIONS TO STATE HOSPITAL

Plans are being completed in the office of Powers & Ahnden, 26 O'Farrell Street, San Francisco, for additions to the Sonoma Hospital at Eldredge, California. There will be a gymnasium and ward building. L. H. Nishkian is the structural engineer.

RACE TRACK PAVILION

F. J. De Longchamps of Reno, Nevada, has prepared plans for a large pavilion to be built at the Reno race course. Mr. De Longchamps has several other commissions, which will likely keep his office busy during the summer months.

Comfort for 17,000 Baseball Fans

"American" seats in the San Francisco Baseball Park (featured in this issue) bring to patrons a seating comfort that makes the habitual seventh inning "stand-up and stretch" a mere gesture.

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HO! HO! THE HOMEY HOUSE
Words and Music by
KENNETH MURCHISON
in *Architectural Forum*

HOME, Sweet Home was never meant for a flat. "Home" is an English word. The Greeks didn't have a word for it. Nor have the French except perhaps *"chez moi,"* which means "among myself." But imagine inviting someone to spend the week-end at your "among yourself!" The invitation would never be accepted and your guest room would yawn in vain for an occupant; that is, if you are sufficiently affluent to own a guest room.

The small house is what the young architect generally starts his career with. Some kind friend wants to give him an introductory shove in his shining career and so she (the client) pores over a few magazines and cuts here and there, a picture out of *The House Beautiful*, or *House and Garden*, or *Home and Field*, or any other of those real nice homey magazines, and says, "Here, Henry dear, build me something exactly like that."

VARIATION OF AN OLD THEME

So Henry starts out, first, to improve on the magazine picture. He doesn't always succeed in that idea for the magazine prides itself in publishing only the best of the contributions sent in to them by hopeful designers.

So if it weren't for the small house and the fact that they were once young, a lot of our high-hat practitioners wouldn't be where they are now, with their big courthouses and public libraries and tourist hotels and their names in the paper every Sunday, and other days when possible.

INSPIRATION APLENTY

Many books have been published on small houses so there are plenty of inspirations. Besides these, we have the "Architects' Small House Bureau," an organization which turns out cute little houses at a cost to the client so moderate that said client can buy all his wallpaper and draperies with what he saves on the ordinary architect's commission of 6 to 10 per cent.

Whether or not the "Architects' Small House Bureau" is a good thing for the profession has not, according to our agents' reports, been finally settled. Some say it's good. Some say it's bad. It has among its good points the undeniable fact that this past winter, the Bureau in New York alone used a lot of idle draftsmen in three-day shifts and thus helped out a most trying situation.

BETTER TIMES AHOY!

But hope springs eternal, especially in the architectural bosom, and the people of our broad land are looking at things in a more roseate light. Which news is, or are, good tidings for the archi-

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tects, whether they design small houses or big ones, or make little ones of big ones.

We recently read an article listing ten reasons why better times are near. The reasons ran from the lessening of fear down to the assertion that one could build a house for the lowest price in many years, perhaps 15 or 20 per cent below the topmost peak of a year or so ago.

Ideal for Knitting Booties

So now is the time to build a house. Hearken, ye brides and ye bridegrooms! Tell the Papa, no matter how low he feels, that you cannot get along without a little house; that a flat is no place in which to bring up future Presidents and Congresswomen, and that you cannot be expected to uphold the Theodore-Roosevelt-big-family idea unless you have a place to put the little futurists in.

Small houses run all the way from those hideous rows of wooden monstrosities built by the suburban developers up to the scintillating jewels turned out by our Lindebergs, our Forsters, our Emburys and our Tappans.

The Smaller the Tougher

The architects who can evolve attractive little houses with no considerable outlay on the part of the clients deserve a lot of credit. The smaller the house, the more trouble it is to the architect. We all know that. Every unnecessary cubic foot must be eliminated, the material market must be studied, the problem of getting a low effect of facade on a small floor plan must be solved—and all according to the client's desires.

Architectural magazines contain many attractive illustrations of moderate-sized dwellings, all shapes, all sizes, of all materials, and of all periods. We read about a Model House every Sunday in the newspapers; we have competitions for small houses without number, and certainly the opportunity for our designers is not lacking.

The Dear, Dead Days

Every year the Architectural League of New York holds an exhibition of completed small houses, which is most interesting to the profession at large, and at which is shown the work of small-house experts from all over the country. There is no gainsaying the fact that architectural design in the United States has shown a most remarkable advance in late years; those terrible things of the Eighties and the Nineties are happily among the missing; the old family mansard roof is in the limbo of forgotten things—in fact, we don't put a roof like that on apartment houses or hotels any more. Nowadays, we use roofs for living purposes—high sky-gardens with awe-inspiring views of the great city at our feet.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $28 to $33 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $9.00 plus cartage.
Face, f.o.b. cars, $40.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 75.00 per M
4x12x12 in.	85.00 per M
6x12x12 in.	124.00 per M
8x12x12 in.	188.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$87.00
6x12x5½	60.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Rubber Tile—55c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Atlas "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 50 cents; clay or shale, $1.00 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	37.00 per M
1 x 6 No. 2 and better flooring	40.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	30.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$130.00 M ft.		
1 1-16x2¼" T & G Maple	140.00 M ft.		
⅞x3½ sq. edge Maple	127.00 M ft.		
	13-16x2¼" T&G	⅜x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $3.00 base.
Belgian nails, $2.75 base.

Millwork—
O. P. $80.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $6.50 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.50 each.
Dining room cases, $6.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

NOTE — Above quotations are for ⅜ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Verde Antique	3.00 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft
Tennessee	1.70 sq. ft.

Painting—

Two-coat work	30c per yard
Three-coat work	40c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 95c per gal. in cans and 80c per gal. in drums.
Raw Linseed Oil—$.87 gal. in bbls.
Boiled Linseed Oil—$.97 gal. in bbls.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb lots	12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt.	13¼c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $7.50 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Atlas finish No. 18 gauge wire mesh	2.90
Wood lath, $4.00 per 1000.	
2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—
From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—
"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—
Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—
Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—
Granite, average, $5.50 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—
Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$90 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $86.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture bangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midoight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

In line with labor-saving and comfort-inducing domiciles, and partly because of the scarcity of good domestics in this our land of liberty, we find carefully laid out kitchens and pantries, so arranged that the agile cook, by whirling about either on the left or the right heel, can reach any of the various foodstuffs or condiments so necessary to warm up the heart and the stomach of the Old Man.

A Kitchen Genius

We saw in an advertisement the other day the picture of a comparatively young man who had drawn out ten thousand kitchens for small houses! Really, are there ten thousand different plans? If so, then somebody ought to marry a genius like that. And keep him home nights to see if the kitchen works or whether he was just spoofing.

What shall we say that is new about the small house? Books have been written about it; catalogues of designs have been flooding the farmers for years; Sears-Roebuck and Montgomery Ward actually sell houses by mail; a genius by the name of Buxminster Fuller has invented a machine-like, labor-saving, sun-absorbing house which he proposes to sell by the pound. He believes he can turn out these dwelling machines like Fords or Chevrolets, and what's more, he will allow something on the old one, no matter what its vintage.

Still Lots of Customers

Some modern writers on architectural subjects think that the home, as a home, is doomed and that we are all going to be living in tiers, perhaps on top of office buildings and warehouses, or at least, all in apartment houses. It is difficult to agree entirely with that idea. There are enough people of widely varied tastes to fill up houses and apartments and hotels and steamships and everything else. So every man for himself!

How fortunate it is that tastes differ! Otherwise we might have communities of box-like homes all looking like those rows out in Long Island. Which might be and probably is inconvenient for the old boys who stay out late o' nights and try to use their watches to open the front door.

But by-and-large, it's lots of fun building a house. It's lots of fun and also an absorbing gamble for the owner—to see whether it turns out the way he thought it would and whether he has anything left over. Many are the disappointments, but many are the delights as well. Pride of ownership, too, must not be overlooked, and when the first dinner is served (by what is known as a trim maid) from the model kitchen to the beflowered dining room, then truly should life be worth living and dull care be fittingly buried.

Entrance Vestibule, Shell Oil Building, San Francisco
Walls of French Botreville Marble
Geo. W. Kelham, *Architect*
P. J. Walker Company, *Builders*

▼ ▼ ▼

All Interior Marble
In the Shell Building
Furnished and Installed by the

American Marble Company

Also all Marble Work in the Christian Science Sanatorium, San Francisco.
Henry H. Gutterson, *Architect.*

▼ ▼ ▼

American Marble Company

1504 Hobart Building
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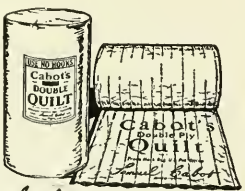
Redstone Apartments in San Francisco. Henry C. Smith, Architect; J. A. Pasqualetti, Owner and Builder. Cabot's Triple-ply Quilt in all partitions.

Quiet!

Cabot's Quilt has long ago proved its worth as a sound-deadening material in modern office buildings, apartments, and homes. Now wherever quiet is essential, Cabot's Quilt is a leading insulation.

Its economy is also a great factor in its steadily growing adoption by leading architects and builders. Its initial cost is low and it is quickly and inexpensively installed. In addition, Quilt is vermin-proof, rot-proof, fire-resistant, and will never pack down or lose its sound-proofing power. Send the coupon below for our Laboratory Bulletin No. 5.

Cabot's "Quilt"



Samuel Cabot Inc.

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Gentlemen: Please send me your Laboratory Bulletin No. 5.

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Address AE-4-31

STATE TO SPEND MILLIONS

Between four and five million dollars will be expended for improvements on San Francisco Harbor within the next three or four years. The program includes extensions of and more modern equipment for the State Line Railroad, new piers, a new state warehouse, and raising back to grade and repaving portions of the Embarcadero and of other streets under state control, abutting the waterfront.

Of particular importance is the new pier construction, inasmuch as the Dollar Line, the Matson Line, the Panama Mail, and other steamship lines must have added berthing accommodations for the new ships which they contemplate putting into the world trade, with San Francisco as the home port.

The Belt Line Railroad will be extended across the Third Street bridge when the latter is reconstructed, so as to serve piers as far south as the Islais Creek-India Basin District. The Third Street bridge is to be rebuilt by the Harbor Board and the city of San Francisco jointly. Bids for the construction have already been received. The nine steam locomotives now operated by the State Belt Line Railroad will be replaced as fast as practicable by new Diesel electric locomotives, which are not only more economical of operation, but are less noisy and smoky.

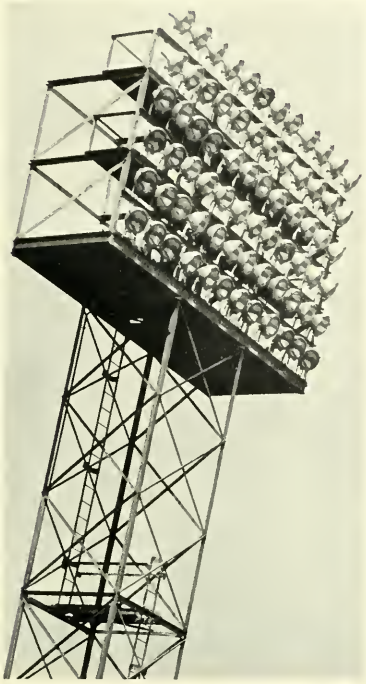
Contracts have already been let for raising back to grade and repaving four blocks of the Embarcadero south of the Ferry Building, and also for the doubling of capacity of the State Refrigeration Terminal at China Basin.

A fireproof warehouse, including shops and garage, and costing about two hundred thousand dollars, is planned for the sea-wall lot, now vacant, at Bryant and Spear Streets. The warehouse will be occupied jointly by the State Purchasing Department and the Harbor Board for their respective stores.

Most important of all of the projected developments is that of providing new, larger and better pier facilities both north and south of the Ferry Building. North of the Ferry Building it is the intention to remove eight old piers. In place of these piers there will be constructed six new piers. The present piers which are to be torn out are from 600 to 800 feet long and from 100 to 130 feet wide. The new piers, entirely fireproof in their construction, will be from 800 to 1,000 feet long and from 100 to 250 feet wide. South of the Ferry Building a new pier is proposed which will be known as 52, just south of the line of Mission Rock.

Important development is projected for Islais Creek. A wharf 900 feet long will be built eastward on the south side of Islais Creek from the

Lighting Towers and Reinforcing Steel for San Francisco Baseball Stadium



Equipped with 308 powerful lamps to flood the field with illumination for night games; with immense stands, offering spaciousness, comfort, and safety, San Francisco's new Baseball Stadium represents the last word in structures of this type. It is a project in which the sponsors, the designers, the builders, as well as the City of San Francisco, are alike justified in taking pride.

Pacific Coast Steel Corporation is particularly gratified to have supplied a large quantity of steel for this great stadium. The 581 tons of reinforcing steel for the stands, and the six steel supporting structures for the flood-lights, which totalled in weight about 47 tons, were furnished by Pacific Coast Steel Corporation.

■ ■

The six steel supporting Towers furnished by Pacific Coast Steel Corporation, for the 308 flood-lights were as follows: Two Towers, 131 feet above the tops of their foundations, carrying 50 lights each; two towers, 65 feet, 6 inches above the tops of their foundations, carrying 72 lights each; and two towers, 71 feet above the tops of their foundations, carrying 32 lights each.

General Contractor: Lindgren and Swinerton. Engineer: H. J. Brunnier.

PACIFIC COAST STEEL CORPORATION
Subsidiary of Bethlehem Steel Corporation

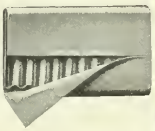
General Offices: 20th and Illinois Streets, San Francisco
Seattle: 28th Avenue S. W. and W. Andover Street
Portland: American Bank Bldg. Honolulu: Schuman Bldg.
Los Angeles: Pacific Finance Building

Export Distributor: Bethlehem Steel Export Corporation, 25 Broadway, New York City

PACIFIC COAST STEEL CORPORATION

COWING
Pressure Relieving
JOINT

Patented September 1, 1925



Insures Facades Against Cracked or Broken Facing Blocks

RAND TOWER, MINNEAPOLIS
Holabird & Root, Architects

THE Cowing Joint is installed in the columns and weight carrying mullions at a mortar course. Its purpose is to relieve pressure thrown on the facing material by compression of steel, temperature changes, vibration and wind stresses. Experience has proved that these severe stresses, unless relieved, will crush and break the stone, terra cotta or marble.

Where the Cowing Joint is installed at each story height the building is completely insured against cracks and spalls, the mortar joints are protected from crushing and the maintenance cost of tuck-pointing is eliminated. The facade is in no manner weakened because the Cowing Joint carries the normal weight of the facing material and compresses only enough to relieve the stress.

See "SWEETS" Catalogue

Cowing Pressure Relieving Joint Co.
226 WEST SUPERIOR STREET CHICAGO, ILLINOIS

end of the present 1,300 feet wharf to the eastern terminus of the present solid fill. On the north side of Islais Creek, west of the Third Street bridge, a wharf some 1,800 feet long will be built from Third Street to the Southern Pacific Railway tracks.

Other plans, announced by Chief Engineer Frank G. White, call for the development of a cotton terminal back of the new outer wharf of Islais Creek. This construction will not be attempted, however, until the cotton business of the port has developed sufficiently to warrant it.

WORKING FOR PROSPERITY

The American Institute of Architects and the Associated General Contractors of America are uniting in an effort to bring prosperity to the building industry. The aid of producers, engineers, bankers, and other elements in the industry will be sought.

The architects and the contractors have appointed committees to frame a policy which, it is hoped, will rid the industry of the evils which have hindered its progress and stimulate home building throughout the country.

William Stanley Parker of Boston, member of the planning group of President Hoover's Commission on Housing, heads the Institute Committee. Wilbur F. Creighton of Nashville, Tenn., is chairman of the Contractors' Committee.

"A fireside for every family is a worthy objective for Americans," said A. P. Greensfelder of St. Louis, President of the Associated General Contractors of America, in a statement stressing the need for good building design.

"We must coax capital back into the construction field," he declared. "Good design like good construction insures the investment. Perhaps the architects and contractors themselves may presently decide to join together in financing construction. If we think it is good for other organizations, it may be equally advantageous for us."

All states should issue bonds for public buildings just as they do for public highways, Mr. Greensfelder asserted, pointing out that only four states make this provision now. "Nearly every state," he added, "needs additional public buildings adequately to house its universities and eleemosynary institutions. Jointly the architects and contractors of the nation can do much toward educating our citizens and politicians with respect to public policy.

"We are not advocates of more government in business, but of more business in government. We believe that the Government should employ architects to design buildings and contractors to construct them. Uninterrupted construction throughout the year should also be our common goal,

since we have found that it is 'custom not climate' which is mainly responsible for seasonal idleness in the building industry.

"It is a long stride from the first log hut in America to the modern apartment of today, but beauty and comfort are no longer considered luxuries. Our residences, whether single or multi-family, should be as beautiful and as harmonious as the architects of America can produce. It is the architect's function to inject beauty into the structure.

"No one prefers to construct an ugly building when a beautiful one can just as well be erected. Contractors have pride in craftsmanship as architects have pride in creation. Both have a common purpose: the beautiful and practical upbuilding of America. In this the opportunities of both are unlimited.

"We Americans rebuild our large cities about every third of a century. Producers are constantly creating new materials or new styles of old materials to keep us all busy modernizing old homes and offices or building new ones.

"Some day American business men will more rapidly follow the guidance of architects and make their business homes as comfortable and admirable as wives do their residences, where men spend only half as much waking time.

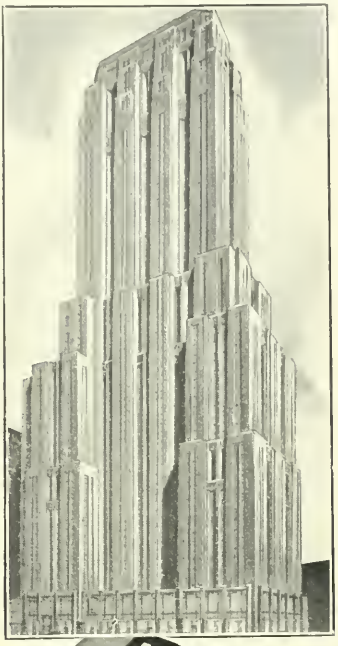
"There is a constantly increasing demand for construction per capita in America. Whether measured in cubage, or area, there is an increase in every decade. Twenty-five years ago the average city workman left his squalid home with a full dinner pail to spend ten or twelve hours in an ugly factory, with the saloon his only place of recreation.

"Today that same workman leaves his modern bungalow with its electric lights, gas stove and porcelain bathroom, in an automobile from a garage attached to his house. He follows well paved streets, recently widened through congested territory, to a modern daylight factory where he spends eight hours, taking time off to go out to lunch.

"In the evening he takes his family to a movie theater and later to a dance hall. The following evening he goes to hear music in an auditorium or visits a branch library. His children are enrolled in a fine community school and for diversion go to an indoor skating rink or a boxing match at the arena. The week-end is spent at some cabin along the river or a hotel in the hills.

"With increasing leisure, as power machinery takes monotony out of many tasks, there is also an enormously increasing demand for recreation facilities. Wives no longer slave from daylight until dark with the drudgery of the household. They patronize the dairy, delicatessen and laun-

HAZARD BUILDING WIRES HAVE TEN SCHOOLGIRL COMPLEXIONS



The new Palmolive Building in Chicago. A monument to every contractor who helped to build it. It was wired with Hazard 30°F. Building Wire by Hatfield Electric Company; Holabird and Root, Architects; Lundoff Bicknell Company, General Contractors.

THE intricate wiring of a building is made easier to follow if the separate wires are identified by colors. Hazard Electrical Building Wire is supplied in ten, standard, easily-distinguished colors for this purpose.

All Hazard wire is uniformly small in diameter with tightly woven braids and a smooth, slick finish that makes handling easier. Copper conductors are full-size and are accurately centered in real, elastic, long-lived rubber insulation.

Send for a free copy of "Installations of Hazard Electrical Building Wire." It shows the ten colors available.

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SISALKRAFT

Junior College Building Bakersfield, Calif.

For Curing » » PLUS PROTECTION of new concrete

THERE is a new concrete floor under this dirt and litter. Imagine what it would look like if it were not protected—scarred, rough and stained before the building is even occupied. But, under that rubbish there is a layer of Sisalkraft separating the dirt and the new concrete and at the same time holding in the moisture that insures proper curing of the floor. Keeping off oil stains and dripping cement, and maintaining its protection even under the abuse pictured, Sisalkraft makes concrete curing a real economy because when the paper is removed a clean, unscratched surface is revealed. No scrubbing or grinding of floors is necessary.

Sisalkraft comes in rolls from 3 to 7 ft. wide, the wider rolls making application and removal a quick, easy job. Take advantage of this economical "double service" that insures properly cured concrete—tougher, denser, more waterproof and wear resistant—and clean concrete as well.

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SISALKRAFT

REG. U. S. PAT. OFF.

"more than a building paper"

A & E 5 Gray

dry with their modern structures for wholesale production.

"Canneries and cold storage plants are likewise springing up all over America. We are more thrifty than ever, as our banking institutions indicate, and our grain elevators prove. We know rainy days are coming and more of us than ever before provide accordingly.

"With an ever-increasing field of structural opportunity, would it not seem 'rational,' as our European friends designate it, to harmonize the interest of architects and contractors to the greatest possible degree? Ruling a contractor out of a just sum can come under no definition of architecture. Sparring with an architect for an unfair advantage is not construction. Both architects and contractors waste time and money in adjusting, even if amicably, differences, which are now bound to arise on any structure. Profits of the building industry are small, almost beyond belief, if the reports of the Internal Revenue Office are a criterion.

"The mortality rate in the industry is terrible and the average existence of a contractor is less than seven years. It is the constant fear by contractors of the enormous contingencies he is asked to take, and the gamble he must throw, which have very largely made him insistent to improve conditions.

"Unrestrained competition in the building industry is an evil. However, practical remedies are gradually becoming effective through local credit bureaus and through the National Bureau of Contract Information.

"Competition has been called the life of trade, but it is the death of many traders. Fair and bonafide competition is fundamental in the construction industry. Any restrictive act is a breach of faith of our Association, its ethics and principles. Competition can only serve its legitimate purpose, however, when it operates under conditions fair alike to owner, designer, and contractor."

FIFTY CENTS AN HOUR

Elwood Mead, U. S. Reclamation Commissioner, has been informed by officials of the Six Companies, Inc., contractors on the Boulder Dam, that the pay for unskilled workers on the project will be raised from $3.50 to $4.00 per day.

Protests were filed with the Federal labor and interior departments claiming that workers on the project were receiving less than the average paid in the vicinity for private work.

The Interior Department was not advised as to whether the pay of skilled workers, which also was said to be lower than the average, would be increased.

HOW TO JUDGE BRICKWORK

By L. B. Brent

THE prospective purchaser of a home may be considering either a house which has been built for some time or one which is under construction. In judging quality, many considerations will be common to both types of investigations, but the procedure will obviously be somewhat different. Insofar as brickwork is concerned the following points are of importance:

The appearance of the individual brick, except as it is an indication of the quality, is not pertinent to this discussion, though a proper selection from among the wide ranges of color and texture as well as pleasing architectural treatment are important considerations to discriminating purchasers. It is important, however, that the proper grade of brick has been used in the various portions of the house. It is desirable that exposed brickwork be built of hard, well-burned bricks. Such bricks are durable and resist the destructive action of the weather. If the house is under construction, well-burned brick may be usually judged by striking two of them together, or by striking one with a trowel. If these bricks are of sufficient hardness for exterior use they will give out a metallic ringing sound. There are some exceptions to this rule, due to some peculiarity of the raw materials employed or of the manufacturing process.

For a given locality, color is also a dependable index of quality. In most sections of the country, if well-burned, brick are a deep, rich red in color, for instance, lighter or "salmon" brick will be those which have not been so thoroughly burned. In a few sections the natural clays burn a cream color or yellow.

Some brickwork develops what is known as "efflorescence," the deposit of a whitish powder on the exposed surface. This is an occasional occurrence only, and in many cases is not significant since the efflorescence will be washed away by the first driving rain storm and will not reappear. In certain instances, however, it is more permanent in character and, therefore, objectionable. It is caused by water which has penetrated the interior of the brickwork, dissolved soluble salts present in the masonry materials and carried them to the outer surfaces where they are deposited as the water evaporates.

Good workmanship to insure watertight walls is the best insurance against this trouble. But it may be well for the prospective purchaser of a building under construction to investigate the tendency of the brick being used to develop efflorescence. This can be done by selecting one or more brick and placing them on end in a shallow saucer of distilled water. If there are soluble salts within the brick, they will be leached out by the water and deposited on the surface of the brick, just above the wetted portion. If no efflorescence develops on the brick for a period of five days it is reas-

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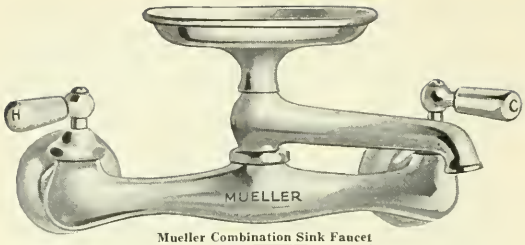

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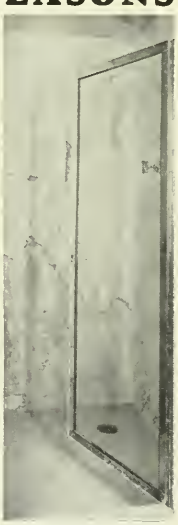

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onably certain that it will not be a source of such trouble.

In completed structures, the appearance of efflorescence should be investigated. It may, as above suggested, be entirely temporary and, therefore, harmless. If, on the other hand, it is of more permanent character, the masonry should be very carefully inspected to ascertain at what points water is penetrating, and necessary corrections in construction detail to eliminate this condition should be insisted upon.

The presence of unsuitable brick in exposed masonry in a house which has been standing for some time may be very readily detected by a general inspection. Underburned brick are likely to have disintegrated to some extent and spalled on their outer faces. With modern methods of brick-making and the care in selection exercised by most producers and builders, the use of other than satisfactory brick is a rare occurrence.

The character of mortar used in brickwork and the methods of its application are of importance. For permanent construction, clean sand and mortar should be employed, and the quantity of cementing material sufficient to insure a dense, strong mortar be used. The principal cementing materials in use are Portland cement and hydrated and slaked lime. Of the two materials, Portland cement produces a mortar having greater compressive strength. Used alone as a cement-

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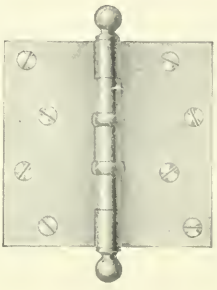

ing material, it results in a mortar which is not so workable. As a result, unless care be exercised, poorer workmanship is likely, since it is more difficult to produce well-filled and finished joints. A very satisfactory mortar is made of 1 part slaked or hydrated lime, 1 part of Portland cement and 6 parts of sand. Such a mortar has ample strength for usual requirements, is readily workable, and is more likely to result in first class workmanship.

In houses under construction, it is possible to investigate the character of the mortar actually being employed and to observe whether or not joints are being well filled and finished. In a house already completed, careful inspection will serve to determine the character of mortars and mortar joints. A satisfactory mortar will be hard, it will not be deeply marked by scratching with a knife or chisel, and it will be free from any tendency to crumble. Well-laid joints will be completely filled, so that there are no openings or cracks through which water is likely to penetrate. The joints should be properly finished. Architectural treatment is a consideration, but no joint, which has a horizontal ledge upon which water may be retained so that it is likely to find its way into the interior of the wall, is altogether satisfactory.

As in any other type of construction, the quality of brickwork depends in a large measure, upon the character of workmanship. Having provided brick and mortar and designed intelligently, it is still essential

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that the work be well executed. The exposed mortar joints should be completely filled and courses of brick should be laid in full horizontal beds. If the wall is made entirely of brick, header courses (that is courses of brick laid lengthwise into the wall) should be provided at sufficiently frequent intervals (one header course to not over six stretcher courses, or the equivalent of one header brick to each 72 square inches of wall face) to tie the wall together well, and if the brick is used for veneering only or as a facing to other masonry material, suitable forms of ties into this secondary material must be used.

These details are usually regulated by local building codes, but the prospective purchaser may observe for himself how this work is being carried out if the house is under construction, and may check these various details by inspection of a completed building.

Walls should be plumb, and courses should be horizontal, except when special architectural effect is desired.

Brick is an excellent material for basement and foundation walls if properly used. If soil conditions warrant, footings should be built below basement walls and of sufficient area to properly distribute the load. Perhaps the most important consideration in constructing such walls is to insure dry basements. In gravel or sandy soils, where natural slopes are such as to provide free drainage, no precautions are usually necessary other than that the walls be carefully laid and be composed of good quality brick and mortar. In denser soils, such as clay, or in localities where ground water is encountered, basement excavations in such soils are, in reality, sumps into which surface and ground water finds its way with the result that unless proper provisions are made, hydrostatic pressures are developed on the outside of the wall, with the result that water finds its way through even well-laid masonry. Under these conditions, it is important that adequate drainage be provided at the footing level, on the outside of the wall, and that the water be carried away by connecting the drains with sewer or other outfall connections. Such drains should be covered with porous materials, such as crushed stone or cinders so that water may readily find its way to them. It is usually desirable to plaster the outside of the wall with a half-inch or more of good mortar, troweling this coating thoroughly to insure a dense and reasonable smooth surface. In extreme cases, the use of a waterproof coating of bituminous character is desirable.

The importance of these details depends largely upon the character of the soil. The prospective purchaser may observe how this work is being carried out if the house is under construction. In a completed structure, he will have to depend upon statements made by the builder, observe the walls during a protracted wet period, or make actual tests by thoroughly soaking the

ground along the foundation line by permitting a garden hose to run continuously, at various points, for a considerable period, say, 24 hours or more. Excessive dampness and, much more, the actual presence of flowing water in the interior, will indicate an unsatisfactory condition.

As has been previously stated, outer walls should be built only of hard, well-burned brick, should have all joints carefully filled and finished, and should conform in workmanlike manner to the adopted plans.

A type of brickwork which is finding much favor among architects at this time is known as "Skintled" brickwork. Under this general term, a wide variety of treatments is employed. The use of over-burned bricks, some of which may have been partly fused, irregularity of joints, brick indented or protuding from the general plane of the surface, and other details are followed to obtain various artistic effects. Such work, if properly executed, is thoroughly satisfactory and usually results in very attractive finishes.

ENGINEERS' REGISTRATION CLUB

Porter H. Albright, consulting engineer, Los Angeles, has been elected president of the California Engineers' Registration Association, and William C. Hogoboom of the Los Angeles City Engineering Department, Bridge Division, has been named secretary. F. E. Trask, president of Los Angeles Chapter, American Association of Engineers, has been elected vice-president, succeeding E. Earl Glass, resigned. Vice-presidents who remain on the executive board include Frank H. Olmsted, Glendale; Tom Allen, San Diego; Philip Schuyler, San Francisco; C. L. Kaupke, Fresno; Walter R. Fleming, Long Beach, and Everett N. Bryan, Sacramento.

The California Engineers Registration Association was organized in March, 1928, for the specific purpose of securing the passage of a law requiring the registration of professional engineers. As a result of the efforts of the Association and the splendid moral and financial support given by the engineers throughout the state, a law was passed in 1929 requiring the registration of civil engineers. Although the registration law does not provide for the licensing of other branches of the profession, it has been conceded that some headway has been made in this direction, and as soon as the benefits become apparent to the other branches, steps will be taken toward a more all inclusive law.

Although according to the ruling of the Board of Registration for Civil Engineers, structural engineering is a branch of civil engineering, the structural engineers have asked that a provision be made in the state law providing for the registra-

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tion of "Structural Engineers." A bill has been introduced in the State Assembly, amending the Civil Engineers' Registration Act, by adding a new section providing for the examination and registration of structural engineers. C. E. R. A. has given its support to this measure, and instructed its representative at the Legislature to work for its passage.

Among the several measures introduced in the Assembly and Senate that affect the engineering profession in one way or another are Assembly Bills 615 and 616, which are amendments to the Civil Engineers' Act, and are recommended for passage. Assembly Bill 615 provides for the registration of structural engineers. Assembly Bill 616 provides several amendments to chapter 801, Statutes of 1929, which appear to be necessary, one provision being that a certificate may be suspended (there being no provision for suspension in the present law, although a certificate may be revoked). Another amendment provides that when a person "offers" to practice it shall be considered as practicing. A new section is added to the act defining the terms "civil engineering," "civil engineer" and "responsible charge of work," this latter amendment being the most important.

ARCHITECTURAL PROGRESS
1930 VS. 1931

By ROBERT D. KAHN

WHAT progress has American architecture made during 1930 and what are the prospects for 1931? Do we know which way we would go in this matter of building design and construction, have we been moving in that direction and are we likely to keep going?

It would be quite impossible to secure from architects generally any measure of agreement on answers to these questions. But if I give my own opinion with any degree of assurance it will be because I have tried to follow the current of forces and events in the American building world with some degree of detachment. It seems evident to me then that American architecture does know where it wants to go and is on its way both in the field of design and that of materials and methods. What appears to me to be even more certain is that within the building industry of this country there are elements which are moving towards a realization of their responsibilities to the public and towards a definition and perfection of their functional relations to the industry as a whole.

In the field of government architecture we have made a notable showing in 1930 in the development of the buildings on the so-called "Triangle"

in Washington, D. C. The coming year will give even more visible evidence of the wisdom of this plan whereby all of the plot between Pennsylvania Avenue and the Mall is given over to public buildings or to parks. While the National Commission of Fine Arts determined (and perhaps wisely) that all of these buildings should be designed in a "classic" manner, construction has progressed far enough to show that the buildings in this group will produce a certain unity and be consistant with the character of the monumental Washington which the Commission has planned. Elsewhere in the country there are indications of a greater freedom from conventional forms in public building design. The influence of the classic architecture of seventeenth century Italy is on the wane; rows of columns are no longer considered an essential element of a district high school or a library, nor the sole means of indicating dignity of function in a combined police headquarters, fire house and jail. Indeed it is only fair to say here that perhaps the greatest progress has been made in recent times in American school architecture. It is becoming functional and virile. Our municipal architecture, and the architecture of the Federal Government will free itself from outworn forms of expression as it is taken out of official governmental architectural bureaus and put into the hands of competent architects who will apply to it that same ability which has advanced American architecture to a leading position among modern arts.

During 1930 there has been much discussing of the modern trend in architecture and hints of what the coming Exposition in Chicago would do to give expression to that modernism. While it is true that the Chicago Exposition in 1893 dragged America out of a "free lance" architectural era ranging from Victorian Gothic through Neo-Grec to Richardsonian Romanesque and steered it (was it all for the good?) into an era of studied classic, it may be hoped that people will realize that an exposition is an ephermeral thing and experimental, and that its architecture may properly give expression to fleeting impulses in design. If that principle is not recognized, then it is to be feared that the buildings of the 1933 Exposition in Chicago, however interesting they may be, will have a sad and tumultuous effect on the minds and acts of that unfortunately large majority of all designers who only copy, those people who never

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cogitate, then get an irresistible impulse, then work passionately, and finally create.

In the world of the skyscrapers, 1930 has evidenced two signs of progress in the right direction. In this field architects have long since broken with tradition, but one indication of real progress is evident in that they are now trying to make their designs more expressive of the skeleton within the envelope and that they are trying to find new materials and new methods of construction more consistent with the nature of that envelope. But perhaps the most hopeful sign is the second, namely, that now we hear ever recurring questions: "Is the skyscraper necessary? Is it reasonable to allow it to live on the light it steals from others?" "We get a pleasurable kick out of looking at it but isn't there an awful kick of another kind in it?"

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Filling a long experienced gap in Western floor covering manufacturing and distributing facilities, the Paraffine Companies, Inc., announce establishment of a linoleum plant on the Pacific Coast. Work has already progressed on the erection of a large modern manufacturing unit at the 32-acre Pabco plant at Emeryville, California, where will be manufactured plain, jaspe and battleship linoleums with borders and ornaments. This will be the first linoleum plant west of Pennsylvania. It is said by the Pabco officials that it will be the most modern linoleum plant in the world. Speaking of the company's plans a Paraffine official said:

"Of particular interest to Western architects and building trades is the fact that this plant is advantageously located not only for the supplying of standard linoleums, but for the quick accomplishment of the requirements of the so-called 'tailor made' jobs.

"The architectural vogue for plain linoleums with contrasting borders, corner and center designs for installations typifying the type of business using the space, has brought about the need for an extraordinarily close contact between the architect, the contractor, the owner, and the manufacturer of the linoleum.

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"The sales and designing department will be in charge of G. Mott, well known to California architects and building owners, and formerly with one of the large Western linoleum dealers. Prior to that Mr. Mott was with one of the Eastern linoleum manufacturers.

"The plant operation will be in charge of E. B. Grosh, former general plant superintendent and for fourteen years with one of the country's oldest and largest manufacturers of linoleums."

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Evidence of unusually widespread interest in the new Milcor expansion cornice lath has been displayed in all parts of the country. Since its introduction a short time ago, the company reports that thousands of requests have been received for samples of the material.

"Among those apparently most interested in the new cornice are building contractors who are quick to appreciate a product for which they have a definite need," said an official of the Milcor Company. Continuing, this official said:

"In a few cases the purpose of the cornice lath has been misunderstood, perhaps because previous announcements have been so necessarily limited that a full explanation was not possible. Plasterers have been anxious to know just how the new product is to be used by them. An examination of the cornice lath will easily convince them that it will be of advantageous assistance in making a perfect and lasting job of joining wall and ceiling in a very attractive manner. In no case can the expansion cornice lath take the place of ornamental plastering produced by skilled artisans, and it is not designed for this purpose.

Architects and builders will appreciate the advantageous features of this new Milcor expansion cornice lath, as it offers attractive possibilities for ornamental coves and cornices at a cost that will permit its widespread use, not only in the public building field, but in the residential field as well.

The cornice, being made of steel, will not crack and, therefore, will provide a permanent finish at the juncture of wall and ceiling where disfiguring cracks usually appear. The expansion wings are actually a part of the metal—not welded—and become thoroughly imbedded with the lath beneath, insuring a lasting plaster job. There is no possibility for the cornice to pull away from the wall. The metal cornice is lead-coated and will receive and hold a paint job to harmonize with walls and ceilings. It cannot chip or scale. Expansion cornice lath is easy to apply and simplifies as well as perfects the plastering job, thus effecting a saving of time and labor.

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ENGINEER'S BILL VETOED

A bill to amend the New York State multiple dwelling law to place engineers on a par with architects in the filing of plans for multiple dwellings in all cities where the law is effective was veoed by Governor Roosevelt after having been passed by both houses of the Legislature, *Engineering News-Record* reports.

The multiple dwelling law provides that plans for such dwellings are to be filed with the tenement house commissioner by the owner in person or by a registered architect acting as his agent. The amendment would have inserted the words "or by a professional engineer, experienced in the planning, designing, construction or alteration of such dwellings, buildings or structures" after the word architect. A similar bill, except for the qualifying phrase was presented to the New York Legislature last year and was strongly opposed by the architectural profession because it would have permitted all engineers, whether or not experienced in building design, to file plans for multiple dwellings. Hence when the bill was submitted again this year the qualifying phrase was added. It still did not meet with approval of the architects. They desired some more definite limitation such as structural engineer. Engineers, on the other hand, oppose so restrictive a classification because it would prevent the filing of mechanical and electrical plans by engineers of those two branches of the profession.

The Governor, in vetoing the bill said:

"This seems to be a hastily drawn piece of legislation. It provides that licensed engineers, in order to file plans, must be experienced in planning, designing, construction, or alteration of buildings, and it is possible that the amendments bring registered architects within the same requirement.

"Who is to interpret the word 'experienced'? Is it the tenement house commissioner, or is it the department of education?"

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In an effort to aid the construction industry to get on a better foundation in the readjustment of the building situation, a campaign has been undertaken by the Columbus, Ohio, Chapter, American Institute of Architects, to impress upon the building public the losses which owners have suffered, particularly through haphazard planning and unsound speculative building, and to urge upon the building industry the importance and necessity of protection to owners in the future. Announcement of the campaign is made in the following statement prepared by Galen F. Oman, chairman of the Committee on Public Information of Columbus Chapter, A.I.A.:

"The architects of the Columbus Chapter of the American Institute of Architects feel that the time has come when a closer cooperation between the financial institutions, contractors, building material dealers and architects is absolutely imperative for the protection of the building public and the quality of their investments.

"Many builders have suffered severe financial losses on their investments due to haphazard planning and shoddy construction. Maintenance and upkeep alone have cancelled the dividends and their original investment is away below par with little chance for a comeback. In other words, quality design, planning and construction have proven to be the only road

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"The depression we have been experiencing is only the natural swing of the pendulum following the building boom. The unfortunate part of this situation is not so much the fact that the country was overbuilt as that the speculative disregard for quality limited the quality building market to about 25 per cent of the total program. This means that about three-fourths of the total construction has resulted in a liability rather than an asset.

"We believe that during the calm of depression the realization of just what has happened will dawn upon the building public, and as the breeze of building activity increasingly stirs they will awake to demand quality construction, good design, efficient and economical planning.

"The building industry in the United States had a volume exceeding five billion dollars during the year 1930. This is a tremendous business, reaching every community in the United States and involving more operating units than any other American industry. The depression of 1930 showed a volume decline of only 16½ per cent from the ten-year average of 1920 to 1929, and present indications now point to a gradual and sensible return to normalcy in the construction field. This is as it should be.

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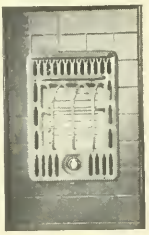

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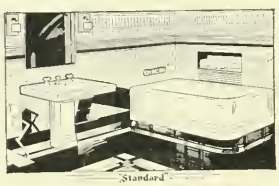

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struction and for the elimination of 'jerry building.' Unsound speculative building has caused thousands of foreclosures and repossessions that advertise poor building, excessive upkeep and disheartened buyers. Controlling financial interests seem to realize that buildings should be better planned and better built in order to increase rental or occupancy efficiency and to decrease the costs of maintenance and depreciation which often in themselves are sufficient to place poorly-constructed buildings into red operating figures. There is an apparent determination to discourage waste which goes with cheap building.

"It is estimated that more money has been wasted in the building game, due to poor planning and construction, than in any other business. The number of buildings erected without the service of an architect is amazing. The small house has been numerically the largest field of building construction and the one in which architects have participated least. The building public in general has proceeded to invest their money in home building without feeling the necessity of the architect's service.

"This situation is largely due to the fact that the public does not thoroughly understand who and what an architect is and what he does for his clients. The architects believe that this situation can be corrected, and we are now initiating a campaign that will properly inform the public on building facts and the proper method of procedure in building. It is a duty the architects owe their community. It will soon produce results and make the residents of our city proud of their native community and the beauty of its architecture.

"In a series of articles we propose to give the building public the opportunity of hearing what an architect does, why his service is an economic investment, why good plans are as important as a good

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foundation, and why architectural supervision insures quality and full value received. We believe that the public is entitled to these building facts and that the wise builder of the future will give more consideration to the soundness of his investment and architectural service."

WHAT IS ETHICAL?

(From the *American Architect*)

"Ten years ago a young architect was asked to permit a zealous carpenter, also young, to bid on a residence for a physician. He protested. The physician insisted, saying the carpenter had many friends—and 'I'm new in this town and need the friendship of people with friends.'

The carpenter was engaged as contractor, for his bid was in line. His work was so satisfactory that the architect gave him other jobs.

"Soon the carpenter, now a contractor, approached him: 'I have a contract to build a house, but need the plans drawn. Will you do them for me?'

"That was the first of several commissions. Then the carpenter made this proposition: 'I find that I can get business. Suppose you and I go into partnership. You design the houses and I will build and sell them.'

"The architect, obsessed with the idea that it was unethical for him to step out of his professional standing and become associated in the contracting business, refused.

"Today the young carpenter is a millionaire several times over. He employs from thirty to forty draftsmen. The architect, who left his home town for larger opportunities in New York, is out of a job.

"The question is, does our domestic architecture suffer because so many of its practitioners cannot make a living designing small houses and yet refuse to sell their talents to a public which need that talent and ethical responsibility?"

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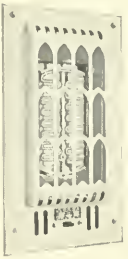

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"The agitation to "keep business at home" and to give preference in employment to "local labor" which is ever existent in American communities, but which has become intensified on account of the business and industrial depression which set in during 1930, has resulted in the enactment of restrictive legislation in many towns and cities. In the main these regulatory ordinances have been drafted in reasonable terms, but some contain arbitrary provisions which leave no choice to an alternative way out of an embarassing situation, should one arise. And that such a situation is always possible is illustrated by a controversy which has just arisen in the San Francisco bay district.

San Francisco has an ordinance which requires that preference shall be given to articles of domestic production and manufacture on all contracts for public works. So when Mahoney Bros. secured the contract to build a warehouse for the city and county of San Francisco the provisions of this ordinance were written into the agreement. A proposal to furnish the millwork for the structure more advantageous to the contractors than any received from San Francisco mills was offered by the National Mill & Lumber Company of Oakland. However, the contractors were notified by the city and county through the bureau of architecture that they would not be permitted to place millwork furnished by the Oakland company in the warehouse for "the sole reason" that it would be made outside of San Francisco. In the hope of obtaining relief from this ruling, they have taken the matter into the superior court.

While San Francisco and Oakland are independent and, in a sense, rival cities, they are separated only by San Francisco Bay and are interdependent communities. Oakland could not afford to

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be at loggerheads with San Francisco and it would at least seem to be bad policy for San Francisco to antagonize her lesser rival. It will be interesting to note what view the court takes of the situation in passing upon Mahoney Bros.' petition for relief from the restrictive ordinance which technically, at least, places a ban on products made across the bay. But, however the court may rule, the outcome will probably not promote friendly feeling between the two cities.

While restrictive measures seeking to protect local industry and labor in communities are not generally prompted by any spirit of antagonism or hostility toward neighbors, they frequently lead to ill feeling and sometimes to bitterness. For this reason many cities have refused to adopt ordinances that would put them in the position of having to arbitrarily place a ban on the product or labor of any neighboring community. They have taken the position that local self-interest would operate quite as effectively to insure protection without resort to legislation which would appear to openly antagonize their neighbors.

FREEDOM IN DESIGN

Freedom as the basic principal of modern architecture, was preached to several hundred students, practitioners and others interested in the building arts at Meany Hall, University of Washington, Seattle, on Thursday evening, March 12, by Frank Lloyd Wright, internationally famous exponent of modern school of architecture, who makes his headquarters in Chicago. The lecture was given jointly under the auspices of the Department of Architecture at the University, the Art Institute of Seattle, and the Washington State Chapter of the American Institute of Architects. Harlan Thomas introduced the speaker.

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"Integrity" was given as the basic principle of modern architecture by Mr. Wright. With integrity, he said, is allied four great resources: (1) Glass, "the new super-material;" (2) Continuity, provided by steel; (3) Plasticity; and (4) Integral ornament.

The use to which the interior of a building is to be put should determine its structure, said Mr. Wright, in explaining the principle of integrity. When the inner structure is determined, the exterior will naturally conform. The structure should grow naturally out of the ground, conform to its particular site, and achieve an organic dignity, he said.

"Glass, the new supermaterial, makes possible the escape from old restrictions, promotes the development of spiritual values, and restores some of the freedom which primitive man enjoyed," said Mr. Wright. "With the liberal use of glass, houses can abolish enclosing walls and garden living can be resumed.

"Classical architecture has been killed by steel, which makes possible the application of the principle of continuity to construction. Where post and beam were separate entities in the old order, steel in the new order has welded post and beam in a single structural unit.

"The plasticity of new structural materials makes possible new economies unknown to classical builders and enhances the expression of spiritual idea. Restrictions of height and shape are almost obliterated. Freedom of design is achieved as far as materials are concerned. Each kind of material calls for a different type of construction.

"'Integral ornament,' the fourth resource, requires the structure to be true to its natural pattern. Foreign or irrelevant decorative features are held inimical. The expression of the function of the building is its greatest beauty."

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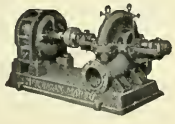
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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

Of the Architect and Engineer, published monthly at San Francisco, Calif., for April 1, 1931.

Before me, a notary public in and for the state and county aforesaid, personally appeared W. J. L. Kierulff, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Architect and Engineer, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (if daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

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Editor, F. W. Jones, 1662 Russ Bldg., San Francisco, Calif.

Managing Editor—None.

Business Manager, W. J. L. Kierulff, 1662 Russ Bldg., San Francisco, Calif.

2. That the owner is: (If the publication is owned by an individual his name and address, or if owned by more than one individual the name and address of each, should be given below; if the publication is owned by a corporation the name of the corporation and the names and addresses of the stockholders owning or holding one per cent or more of the total amount of stock should be given.)

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W. J. L. KIERULFF, Business Manager.

Sworn to and subscribed before me this 27th day of March, 1931.

(Seal) MARY D. F. HUDSON.

(My commission expires Dec. 22, 1932.)

AIR DEPOT AT ALAMEDA

All preliminaries have been concluded and work will start on the new West Coast army air depot, in Alameda, as soon as instructions are received from the War Department at Washington, D. C., according to an announcement by Captain Leander Larson, who arrived recently from Fort Lewis, Wash., and is stopping at the Hotel Alameda.

Captain Larson is a graduate civil engineer, and a member of the American Society of Civil Engineers.

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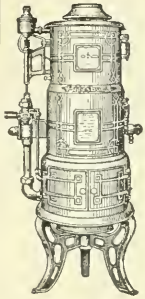

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THE ARCHITECT AND ENGINEER

JUNE, 1931

Otis elevator installations....

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Thumb Tacks and T-Square

NEW YORK architects are having some lively discussions over the design for Radio City, the huge Rockefeller project. Naturally there are diverse opinions—some favorable, others severely condemnatory. The architects concerned with the project are Reinhard & Hofmeister, Raymond Hood, Godfrey & Fouilhow, and Corbett, Harrison & McMurray.

Pencil Points thinks some of the criticism unwarranted since the critics were without complete knowledge of the facts and problems involved. It would appear that somebody erred in announcing the plans for the project by leading the public to believe that Mr. Rockefeller was going to provide the city with something truly monumental, something that would take rank with the great public squares of the world, such as the Place de l'Opera or the Place Vendome in Paris. This idea was accepted by the public which thereupon looked forward eagerly to the publication of the designs. With its mouth all made up for frosted cake the public was naturally keenly disappointed when the model revealed that it was to get only bread. It is perhaps only fair to say that the proposed buildings will not be entirely out of harmony with much of contemporary New York, nor will they be less sightly than a large proportion of the modern commercial structures erected during the past few years. A great opportunity to beautify the city has been lost, regrettably, but the client is apparently satisfied that the money invested in the project is going to be safe. And that, after all, is the primary consideration with the backers of commercial buildings everywhere. We are not going to like the bread as well as the cake but it may prove to be more nourishing though less edifying. Time will tell.

⁂ ⁂ ⁂

SINCE the first pictures were published of Radio City we understand quite a few changes have been made so that when the buildings are actually finished, we may be pleasantly surprised with the result. Let us hope so anyway. There are enough architectural abberations in our big cities already. Beauty should not suffer for utility.

In this case there is enough talent and sufficient money for a happy combination of both.

⁂ ⁂ ⁂

THE estimated cost of "Radio City," financed by one of the nation's most powerful interests, is $250,000,000. On each side of the great central building, on Fifth Avenue, will be a towering office building. On Sixth Avenue, at Forty-eighth Street, will be the RKO Vaudeville Theater with 6800 seats and at Fifty-first Street, partly on land leased from the Mendel estate, a motion picture theater of 3800 seats. Consideration has been given to housing the new Metropolitan Opera House in the central building. Below ground it is proposed to have a 2500-car parking garage.

⁂ ⁂ ⁂

WASHINGTON Chapter, A.I.A., is not in favor of paid advertisements in newspapers, insofar as advertising the profession is concerned. They have experimented and have come to the conclusion the money was wasted. The public failed to respond. The Chapter favors a bulletin service similar to the Illinois Society series. It also is in sympathy with educational articles written by members of the profession and published in the daily press. This plan is also well thought of by the California Chapters. Since they do not wish to contract for regular advertising space a way must be provided to induce the newspapers to publish articles without contracting for display advertisements. San Francisco Chapter is asking the building material firms to co-operate.

⁂ ⁂ ⁂

WHEN the East's latest and tallest skyscraper—the Empire State Building in New York City—was dedicated recently, Paul Starrett, the builder, provoked smiles from his listeners as he extended them an invitation to "visit the tower and examine the stars, now for the first time within the reach of all." Seriously, Colonel Starrett was not so far out of the way in his remarks. Some of the figures which apply to this world's tallest structure are almost staggering. The 20,000 working people who will be housed in its many stories are equivalent to the working population of a town the size of Portland, Maine, or Savannah, Georgia. The total height of the building is 1,248 feet, of which 1,048 feet comprises the main tower of 85 stories. The remaining 200 feet are taken up by the observatory floor and the mooring mast surmounting the structure. There are also two stories below grade. The structure has a cubical content of 37,000,000 feet, and a rentable area of 2,158,000 feet. The steel that went into the construction of the frame weighs more than 56,000 tons and represents the largest single steel order ever placed for building construction.

⁂ ⁂ ⁂

AND now enters the all-metal-and-glass house. One of the main exhibits at the Architectural League show in Grand Central Palace, New York, which closed April 25th was a full size, three story building, erected completely from plans in a little over a week. It is fully equipped with a garage, an interesting living room, a convenient kitchen and a good-sized bedroom. It also contains a sunterrace and small library that can be turned into another room. It is perhaps the most practical house ever exhibited. This modern and modernistic house drew the greatest crowds and received praise from several architects. Harvey Wiley Corbett, designer of the Bush Building, gave the new house his support. He said: "In spite of prejudice, or the opinion of architects or any one else, I believe that the all-metal house will be the house of the future—the answer to the conditions under which we live."

The house is fireproof and of extreme lightness. The floors are insulated and surfaced with rubber and linoleum.

A New Beauty in TERRAZZO

St. Phillips and James Catholic Church, Baltimore, Md.
J. Evans Sperry, Architect.
A. Pessaro, Terrazzo Contractor, Baltimore, Md.

(At top)—Living room in the Morris Corn residence, St. Louis, Mo. Terrazzo work by the Terrazzo Co., Inc., St. Louis, Mo.

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THE ARCHITECT AND ENGINEER

JUNE
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"THEY SHALL NOT PASS"
SCULPTURE BY WM. LEE WOOLLETT

THE
ARCHITECT
AND ENGINEER

JUNE 1931
VOLUME 105
NUMBER THREE

THE "SEATTLE TIMES" BUILDING

by R. C. REAMER, Architect

TO-DAY'S metropolitan newspaper, developed and organized for the rapid collection and dissemination of news, results from a manufacturing process whose complexity is little dreamed of. The newspaper is so intimately a part of modern life that we accept it just as a matter of course. It is always conveniently at hand, it tells us the major happenings in the world almost as soon as they occur, its cost is so slight that everyone can buy it. Ubiquitous, invaluable, indispensable, the daily newspaper is always at one's service — and few people know how or why.

The growth and development of the *Seattle Times* has closely corresponded with that of Seattle itself. It was founded in 1896 and shared in the great expansion which came to the city at the time of the Klondike gold rush. All the subsequent changes and growth whereby Seattle has attained its prominent position in the Northwest have brought similar changes in the affairs of this newspaper and have repeatedly required enlarged plant and facilities. The latest change to the new quarters on Fairview Avenue has only recently been completed. Here on the present northernmost outskirts of the business district, but squarely in the path of the directional movement which has long characterized it, the *Seattle Times* has built itself a new home. Not only are these new quarters spacious, well lighted, and designed to give a maximum of efficiency in the publication of the paper, but by the acquisition of adjoining real-estate, ample opportunity for future expansion on this site has been provided.

DETAIL OF FACADE, TIMES BUILDING, SEATTLE
R. C. Reamer, Architect

The new establishment consists of a two-story office building to which is

joined and connected the adjacent three-story and basement plant building. Deliveries to and from the plant building are made on the north side without street traffic interference through the large yard formed between it and the one-story fleet garage and maintenance shops which are located on the side of the block opposite from the office building.

to furnish for these departments accommodations which both in exterior and interior treatments were simple, pleasing, dignified, generous of light and space, yet at the same time were not unduly elaborate nor out of keeping with the primary purpose of the organization: the publication of a newspaper.

The office building, like the others, is of

OFFICE WING, SEATTLE TIMES BUILDING, SEATTLE, WASHINGTON
R. C. Reamer, Architect

It would be a mistake to attempt to describe in any detail the highly technical and complicated arrangement and facilities which are necessary for the modern newspaper, yet the major aspects of the problem which the design of this plant entailed, may properly be mentioned.

The office building provides quarters on its main floor for the display advertising department and for the business staff, while on its second floor are located the public reception room, the executive and editorial offices and the classified advertising department. It was the purpose of the design

reinforced concrete. The exterior is of Indiana limestone of a creamy tone, above a granite base. The design is of simple "modern" type with emphasis on mass and proportions, rather than on ornament. The second floor spandrels are faced with cast aluminum; the piers have wide shallow flutes; there is simple cresting at the parapet. Except at the main entrance there is no other ornament or decoration. It is executed in aluminum and glass. Certain panels of the flanking limestone returns are carved in ornamental design. The large windows of the building furnish ample

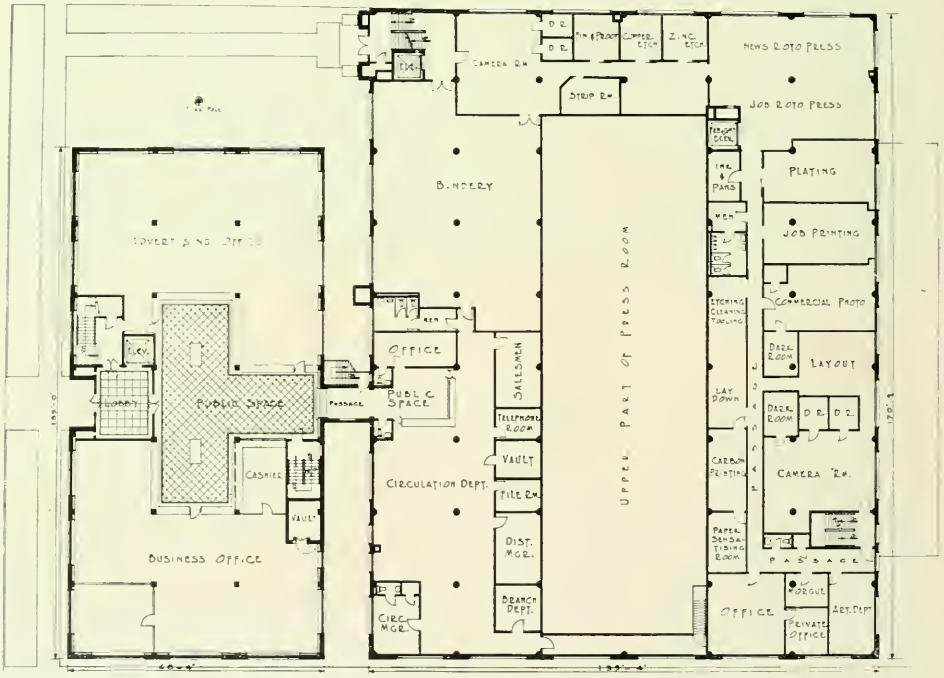
lighting to the spacious interior, the artificial lighting of which is of the indirect type from fixtures of polished metal. Except for terazzo in the main public space, rubber tile flooring, dark green and brown in alternating color, is used throughout. The entrance lobby walls and floor are of light tan Bottichino marble.

The plant building is the "factory" in which the newspaper is produced. Here are located the news and editorial rooms, offices of the Associated Press and United Press, the art and engraving rooms, the "morgue", and all the various mechanical processes connected with typesetting, printing, assembling and distributing the finished newspaper. The arrangements and layouts, although necessarily involved, are nevertheless such as to provide without "back ups" or interference for the orderly and systematic movement and advance of the "copy" from its origin at the reporter's desk to its destination in its final form of completed newspaper in the delivery trucks in the yard. Linotypes, stereotypes, the amazing complexity of the high speed presses, color presses, stuffing machines, conveyors, and whatnot are all involved in the process. The "nerve center of modern civilization" is indeed a place of concentrated complicated activity.

The exterior of this plant building is a simple design of exposed concrete. Sawtooth roofs light the top story news and composing rooms. The floors are in general of ordinary cement finish. In the aisles in the composing room and in certain other areas, the floors are of two inch Port Orford cedar. Trouble with concrete floors has sometimes been experienced in newspaper plants from handling the heavy rolls of newsprint on trucks with small metal wheels. Any possibility of this nature has been avoided here by handling the paper on small cars running on a belt-line track of 12 inch guage which is embedded in

OFFICE, PLANT AND GARAGE, TIMES BUILDING, SEATTLE, WASHINGTON
R. C. Reamer, Architect

PLANT OR MECHANICAL WING, TIMES BUILDING, SEATTLE, WASHINGTON
R. C. Reamer, Architect



FIRST FLOOR PLAN. SEATTLE TIMES BUILDING, SEATTLE, WASHINGTON
R. C. Reamer, Architect

Photo by Leo Furback

DETAIL OF ENTRANCE, SEATTLE TIMES BUILDING, SEATTLE
R. C. REAMER, ARCHITECT

DETAIL OF ENTRANCE, SEATTLE TIMES BUILDING, SEATTLE
R. C. REAMER, ARCHITECT

DETAIL OF ENTRANCE, SEATTLE TIMES BUILDING, SEATTLE
R. C. REAMER, ARCHITECT

and is flush with the surface of the concrete floor. Small ball-bearing turntables and numerous crossovers permit of the movement of loaded and unloaded cars without interference with one another.

Housed in this same building is the commercial division of the *Times* which includes rotagravure, art, photographic, engraving and job printing departments; the information bureau, the advisory home economics department, the staff lunch room, and the telephone exchange.

To its publisher and editor, Colonel Clarence B. Blethen, full credit is due for vision and public spirit in consummating this project at a time of business depression. The plans for the entire establishment were developed in consultation with Major Archie F. Logan, production manager for the owners. The contract was executed by Teufel and Carlson, builders.

DETAIL OF CARVED STONE PANEL,
MAIN ENTRANCE TIMES BUILDING,
SEATTLE, WASHINGTON
R. C. Reamer, Architect

MODERN DESIGN FOR LOS ANGELES COMMERCIAL BUILDING

THE modernistic trend in architecture was the inspiration for Los Angeles' tallest department store building, the new home of the Columbia and Eastern Outfitting Companies. Claude Beelman designed the structure which is outstanding for its blue and gold exterior facading. Vertical piers and shafts extend to the very top of the tower which is 264 feet above street level. These lend greater height. A clock surmounts the tower. It is four-faced and neon lighted. The time piece is automatically regulated and chimes announce the quarter hours.

Dominating features of the lower stories are the entrances. These are recessed openings which blend with the piers and shafts. Pierced grilles above the gates form sunbursts and are stippled in gold. Through the heart of the building is an arcade connecting the entrances and forming a public passageway. The two stores are individualized in this way, each being entered through separate doorways leading from the thoroughfare.

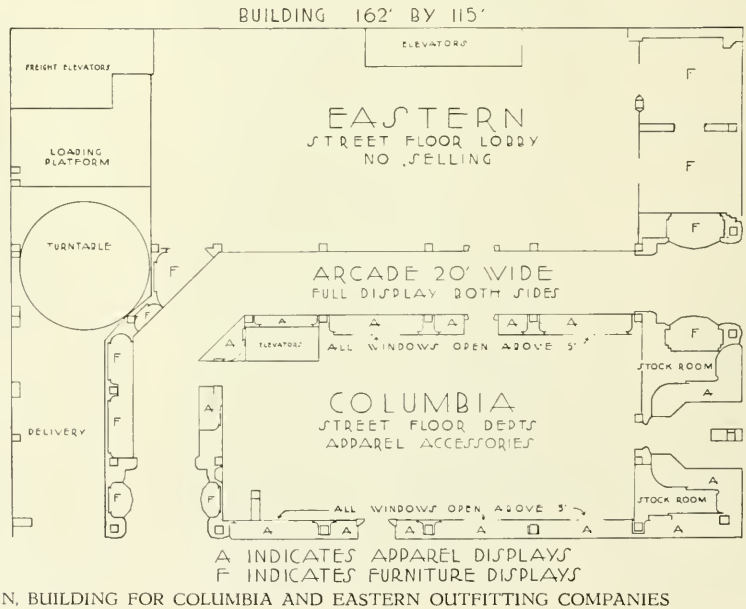
All signs are an integral part of the building, being of the same color and ornamental theme and designed especially to harmonize with the rest of the structure. They are a distinct contrast to the usual stereotyped signs which shout to passersby and project over the sidewalks, marring the beauty of the city. The same rhythm and character is carried out in the interior as on the outside.

BUILDING FOR COLUMBIA AND EASTERN OUTFITTING COMPANIES, LOS ANGELES
Claude Beelman, Architect

A distinguishing feature which was originated by Mr. Beelman, is the location of the boiler room, electrical and mechanical equipment and apparatus in the tower. This plan was lauded by the city council and building inspectors who believe that the installation of such equipment in the basement is a precarious custom.

The building is a class A, limit height structure of concrete and steel, has twelve floors and penthouse with a tower extending the height of two floors. Unique methods of display are used throughout.

INTERIOR, BUILDING FOR COLUMBIA AND EASTERN OUTFITTING COMPANIES
Claude Beelman, Architect



PLOT PLAN, BUILDING FOR COLUMBIA AND EASTERN OUTFITTING COMPANIES
Claude Beelman, Architect

BUILDING FOR COLUMBIA & EASTERN OUTFITTING COMPANIES, LOS ANGELES
CLAUDE BEELMAN, ARCHITECT

Portfolio

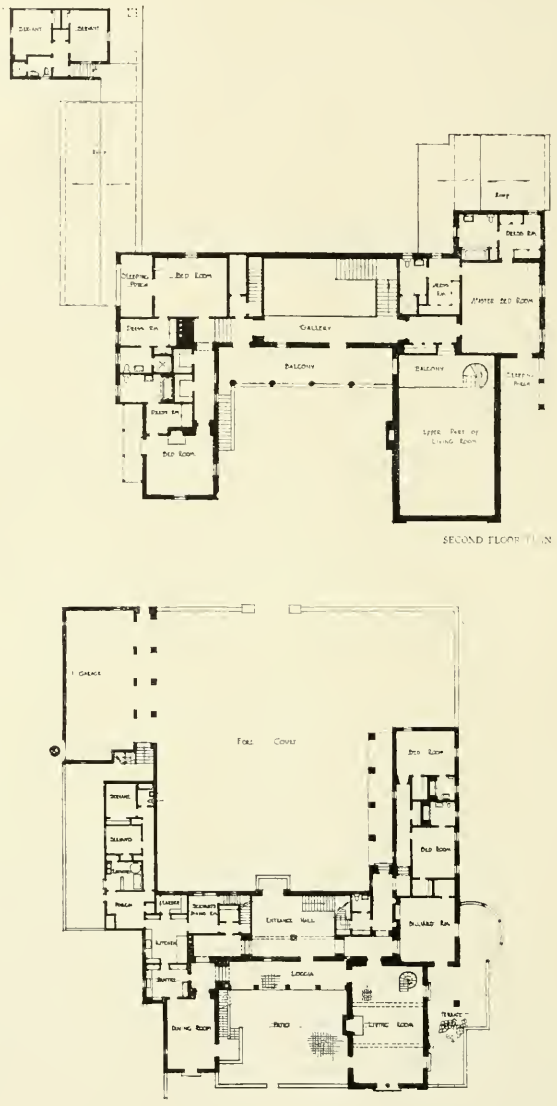
VIEWS AND PLANS

Residence of Mr. and Mrs. W. B. Brandt

Burlingame, California

CLARENCE A. TANTAU, Architect

Photos by Roger Sturtevant



PLANS, RESIDENCE OF W. B. BRANDT, HILLSBOROUGH, CALIFORNIA
CLARENCE A. TANTAU, ARCHITECT

RESIDENCE OF W. B. BRANDT, HILLSBOROUGH, CALIFORNIA
Clarence A. Tantau, Architect

RESIDENCE OF W. B. BRANDT, HILLSBOROUGH, CALIFORNIA
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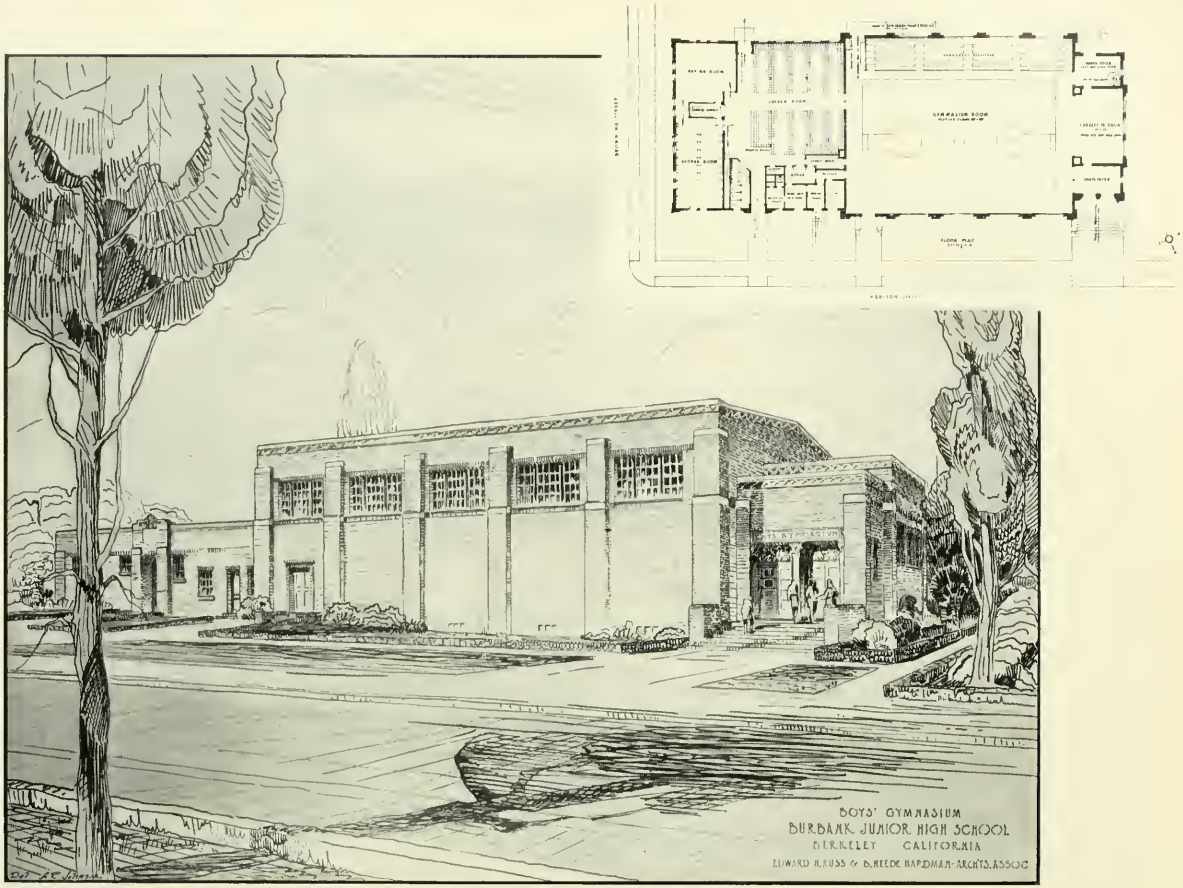
Clarence A. Tantau, Architect

PATIO, RESIDENCE OF W. B. BRANDT, HILLSBOROUGH, CALIFORNIA
CLARENCE A. TANTAU, ARCHITECT



BOYS' GYMNASIUM, BURBANK JUNIOR HIGH SCHOOL, BERKELEY
EDWARD H. RUSS AND B. REEDE HARDMAN, ARCHITECTS

A NEW IMPRESSION OF PUEBLO ARCHITECTURE

by BEATRICE STILWELL

THE beach home recently completed at La Jolla for Mr. and Mrs. J. M. Masten of San Francisco is outstanding for its modern and unexampled treatment of the prehistoric Pueblo design in architecture.

The Southern California coast, with its contrasting colors, abundant sunshine, and warm slopes, lends its natural landscape particularly to the Pueblo thought. The architects' modernization of this principle in combination with the Spanish patio and the Italian roof of the rear elevation, has allowed a pleasing range in composition.

The approach to this home is through a wrought iron gate and up a series of flagstone steps in a delightful rock garden to the upper level. Turning left, up tiled steps to the marine terrace, or right and up another short series of stone steps to the central patio, the parti presents itself. The front elevation is an attractive modernization of Pueblo design, simple and direct in plan, with wide plate glass windows overlooking the Pacific.

The patio elevation, with its suggestion of Indian construction poles, maintains the Pueblo theme. However, in delightful association, the principal patio elevation looks toward the flying staircase and Spanish-Colonial veranda of the second floor, all of which is typically Californian.

An examination of the plans leads to the interesting discovery that while the exterior presents the appearance of a single unit, this home really is divided into three quite distinct parts—the master's suite, occupying the front portion of the house; a complete studio suite opening directly on the patio; and the third, a unit of guest chambers opening directly on the second floor veranda.

The plan of the master's suite is worthy of study. There is no waste of space and yet all rooms are ventilated from at least two directions. Attention to detail has provided every element of comfort.

The drawing room and dining room face the marine terrace with a transcending view of the ocean through large plate glass windows. The bedrooms facing on the patio are unusually well protected from noise. French doors leading into the patio lend added charm to the ensemble.

The studio apartment opens on the patio at the foot of the flying staircase which leads to the guest chambers and azotea. This studio with its tiled bath, kitchen and service pantry, is a complete unit in itself and affords unusual privacy to visiting married members of the family or other semi-permanent guests.

One of the predominating features of this home is the azotea before mentioned. This roof garden, floored in tiles and furnished with attractive deck and garden furniture, provides a sunny spot for out of door living during the pleasant summer months.

GARDEN VIEW, BEACH HOME OF JOSEPH M. MASTEN, LA JOLLA, CALIFORNIA
J. Kendall Masten, Architect; Martin H. Sheldon, Associated

Some of the other unusual features which help to make the Masten home so comfortable are bathers' lockers on the basement floor, and complete electrical equipment, including refrigerators, ranges, wall heaters and an electrically operated garage entrance.

All interiors are treated in softly modelled plaster, forming an admirable background to the carefully selected furnishing and artistic draperies.

The plan and execution of this house is thoroughly successful because it was genuinely planned to meet the conditions of climate and topography. Superfluous detail has been eliminated; the effect is strong, direct and charming in its simplicity. The general feeling is that here are the essentials of good design.

THE AZOTEA, BEACH HOME OF JOSEPH M. MASTEN, LA JOLLA, CALIFORNIA
J. Kendall Masten, Architect; Martin H. Sheldon, Associated

LIVING ROOM, BEACH HOME OF JOSEPH M. MASTEN, LA JOLLA, CALIFORNIA
J. Kendall Masten, Architect; Martin H. Sheldon, Associated

DETAIL, BEACH HOME OF JOSEPH M. MASTEN, LA JOLLA, CALIFORNIA
J. KENDALL MASTEN, ARCHITECT; MARTIN H. SHELDON, ASSOCIATED

PATIO, BEACH HOME OF J. M. MASTEN, LA JOLLA, CALIFORNIA
J. KENDALL MASTEN, ARCHITECT; MARTIN H. SHELDON, ASSOCIATED

FOUNTAIN AND POOL, BEACH HOME OF JOSEPH M. MASTEN, LA JOLLA
J. KENDALL MASTEN, ARCHITECT; MARTIN H. SHELDON, ASSOCIATED

INTERIOR, BEACH HOME OF JOSEPH M. MASTEN, LA JOLLA, CALIFORNIA
J. KENDALL MASTEN, ARCHITECT; MARTIN H. SHELDON, ASSOCIATED

ART AND ABSTRACT VALUES

by WILLIAM LEE WOOLLETT, A. I. A.

THE history of art and architecture is one thing, the method of thought which makes art and architecture possible another. Did you ever consider the Mexican who burns a beautiful tile, the Javanese who produces a drawing, the ancient Chinese potter? These isolated persons create their "speck" of beauty utterly unconscious of the history of art—unknown to art criticism.

Observation indicates that the basic truths necessary to the production of a thing of beauty are within the scope of simple-minded, rational people. These truths seemingly come out of the structure of the mind itself, and appear to be as natural to the unsophisticated as breath; whereas in reality often the sub-conscious part of the artist's mind only is active—the sub-conscious mind in that case acting as a film through which the illumination must pass. What the nature of that illumination is we need not consider here as we are investigating the superficial facts and the technique of the simpler mental categories. It is interesting to note here, however, that a heritage of many generations of culture is not always a guarantee of ability to appreciate art values. In fact whole epochs have been known to pass into oblivion without the spark of art appearing. The amazing thing about this gossimer-like attribute—beauty, is that whenever the maker of beautiful things does appear on the scene, his work is in harmony with every other beautiful thing created.

This consistent conformity suggests that art is the relique of a creative faculty which functions in a dependable and regular manner. It is a self-evident fact that the art activities of man are rooted in human psychology.

We know that art has certain fixed and immutable laws, a scientific and mathematical basis. And it is therefore pertinent for us to ponder whether or not a sequence of historical data exists which would permit a rounded statement of the laws governing the creation of art on a purely empirical basis.

When the earth was growing and nature had not as yet laid down it's re-current layers, was there a so-called science of geology, any hypothesis of world evolution, or could there be until sufficient of life's processes had asserted themselves and left behind a relique of events? So with art, mankind has now achieved the rise and fall of many civilizations, the creation and culmination of many diverse aspects of the art impulse. Through our newly acquired knowledge of psychology we know that these art activities of mankind have been recorded in the adamantine rock of man's mental structure. Hence in the psychological man we should now be able to trace the laws of art and just now when the entire world is so closely knit, by wire and rail and radio, and whereas through the history of art every time and clime seems

to be available, the opportunity presents itself as never before of assembling a substantial body of knowledge in reference to art, having the science of modern psychology as a background.

A scientific attitude toward this subject opens the way to the suggestion that beauty is accomplished by means of a method. A method embodies the idea of tools. We designate then the tools as being that body of thought mechanism respecting art, out of which we may hope to construct a science of art! The data necessary to the assembling of this body of knowledge is to be found in two sources; first, the natural primitive reactions and inter-reactions of the human mind in respect to light, color, form, structure, or the psychological phase of the subject; second, the vast categories of completed works of art which are useful, as a record of thought method or the historical phase of the subject. (Let us be assured that it is with the thought method itself and not the works themselves, with which the science of art is primarily interested.)

In geology the scientific interest centers in the sequence of events, i.e., the history of nature's methods. We do not care particularly about owning many rocks. And yet a geologist might like to have a spectacular specimen near him which reflected some very intricate, and to him, interesting process of nature.

A picture or a building is very much like that unusual bit of rock. The art knowing eye goes over the ancient work of art, in which is concealed the workings of the master mind; and then through a knowledge of nature's processes, is disclosed the trick of hand and eye by means of which the illusive thing, beauty comes forth. In the search for a system or a measuring stick we must keep in mind that a science is really nothing but an overgrown hypothesis. Therefore we are looking first for a theory or hypothesis upon which we may arraign our knowledge of art processes.

Let us assume with the poets that art in its finalty is man's most advanced reflex to his environment, an effort to create symbols of the realities of the subjective world, in which his real life moves and has it's being. As the poet says: "Since I am convinced that reality is not real, how shall I admit that dreams are dreams?"

We live in an age of science. But how shall we know that dreams are dreams? This so-called world of science is a changing kaleidoscopic kind of world. A recent re-subdivision of the atom, a new concept of space, a fresh angle on the theory of light, and this stable thing we call "scientific" knowledge comes tumbling down over our head; and a new concept of what the universe is and how it functions must be re-erected out of entirely new elements.

On the other hand, art and the mind of man, each the unconscious product of the other, are synchronously created and are ordered forever on the unchanging principles of abstract truth. Keats said, "Beauty is truth—truth beauty." Abstract truth then is the kernel or atom; which may not be re-subdivided.

Thus the evolution of art and the evolution of men's mind go on—side by side—each a complement of the other. To say which comes first is to say—the chicken or the egg?—accomplishment in the realm of art on the one hand, or the mental structure of man on the other are one? Therefore the body of knowledge we seek, hoping therefrom to construct a science, must be organized from these two related but separated categories; and this science is the law which governs an artist in the creation of objects of beauty. As already stated these widely separated categories are at once complementary and supplementary to each other. The knowledge of this composite quality is itself, one of the tools of creation; instinct in some men. To express this idea through art is to become a part of the creative force of the universe.

The concept of art as being scientific moreover is in the nature of an enabling act, making possible a station point, from which life's processes in general may be viewed through the portals of understanding.

The scope of this science of art is as wide as the sum total of man's mental life. It is therefore necessary not only to state

thought fundamentals about art and architecture in such a manner that the scientific formulae is apparent, but it is desirable as well that the grand rhythm of the complex civilization of which we are a part should be represented in the picture.

Does the enormous diversity and complexity of our modern world present itself as an obstacle to the consummation of such an object? A vision of the world going in and out of small pigeon holes—each individual being occupied with his own sphere of knowledge only—no man knowing the other man's work or play, no co-ordination of the various ologies and sciences, no common ground of understanding is the vision of Babylon; and life is a terrifying and mysterious tangle to him "who knows that he knows not." Art processes, or methods of thought however may be found to be the unifying factor, the common denominator which enables man to function in the maelstrom of objectivity, for in art values we recognize an expression of the inner-consciousness of all things; and the intrinsic unity of our complex civilization may thus be inferred best from the solidarity of all art categories.

Quoting from Dr. Joannis van Loon's book on Rembrandt:

" 'You always impressed me as an intelligent person, Doctor,' he said, 'and those little sketches which you have shown me are quite nice. You may not have learned as much as some of the boys who went to art school, but the Lord was good to you at birth and you started out with a whole lot more than any of those poor devils will ever get, no matter how hard they work. And yet, here you are, forty years old, or even more, and you have never yet discovered what all truly intelligent people have known since the beginning of time.'

'And that is?' I asked him.

'That nothing counts in this world except the inner spirit of things.'

'Meaning the immortal soul of man?'

'Meaning the immortal soul of everything that was ever created.'

'The immortal soul of tables and chairs and cats and dogs and houses and ships?'

'Just so.'

'And the immortal soul of books and scissors and flowers and clouds?'

'Exactly.'

I was silent for a while. Then I looked at this strange man with the tired eyes and the tired droop of the strong unwieldy shoulders.

'How many people in all the world will be able to understand that?'

He smiled and lifted up both hands in a gesture of resignation. Then he answered me slowly: 'Well, perhaps three or four in every hundred. At the most, four. In very exceptional cases, five.'

'And the others?'

'They will never know what we are talking about, but they will have their revenge.'

'In what way?'

'They will let us starve to death.'

The conversation was rapidly getting beyond my depth.

'Good night,' I said, and held out my hand. He took it."

How to express then the inner-consciousness of our complex civilization is the problem of the present day artist. Since through an experience with diversity only may we approach an understanding of unity, one who would be a creator in art must be able to close his little circle of diversity, i.e., out of his universe create a sense of unity. Likewise an understanding of the common denominator, art, is premised on an understanding of the inner-consciousness of the civilization in which the artist finds himself a factor.

In order that the artist may interpret grandly the time in which he lives it would obviously be necessary that he be an intellectual giant and as well a consummate craftsman. In the past this has been the case as evidence: Gotto, Michael Angelo, Titian and others. In other words the permanent value and aspect of grandeur of a work of art depends on the size of the circle the artist is able to close. The question naturally arises how much of life's processes should be digested by the artist before he may adequately interpret the civilization of which he is a part. There is no answer to this query. However the science of art must justify itself by being a cogent part

of a universal system, and should as well be stated in terms which mesh with the natural reactions of so-called primitive peoples.

We have pointed out that objects of beauty are often wrought by primitive peoples. Out of what might be termed the group consciousness of these we are able to disentangle and delineate certain necessary basic principles. The psychological system or science of art then has its base lines in the creative instincts of man. In addition this system we call a science must have a practical application since our avowed purpose is to gain a concrete knowledge of the laws of production in art. It must be a workable hypothesis.

The scientific formula of a science of art as pointed out previously should be found in the statement of the problem, that is to say, in a method of thought, and not at the end of the book, in the guise of a rule of thumb, or specification for the beautiful.

The problem of growing into a proper conception of art is something like forming an opinion of the value of a diamond. You turn the many facets to the eye; now the diamond is yellow, now blue. Each turn presents another light; each added hue of color another concept of the whole. Without the ability to hold in one's mind the varying moods of the diamond's characteristics there could be no final appraisal of it's worth.

Art as having a scientific formula can be conceived therefore only by those who already have developed the capacity for absorbing and digesting the various phases of the civilization in which they find themselves.

Thus like every other science the science of art is a working hypothesis which presupposes the existence of certain co-related factors. In the case of art, however, there is not the possibility of the "atom" being changed, there is not the contingency that the whole fabric will flop over and a new conception of elemental truths become necessary. Abstract values remain, they are man.

Other views of this house in May, 1931, issue

RANCH HOUSE OF GORDON S. ARMSBY, PEBBLE BEACH, CALIFORNIA
Clarence A. Tantau, Architect

A GERMAN GARDEN CITY

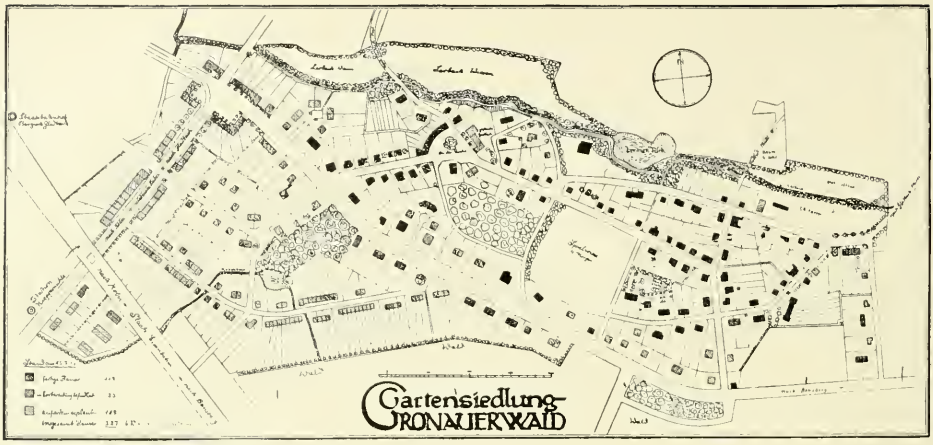
by STEPHEN CHILD, Landscape Architect

ABOUT half way between Cologne and Dusseldorf in the midst of a very beautiful, quite rugged, and well wooded country, is the district known as Bergish-Gladbach. The manufacture of paper was introduced here from Holland in 1582 and this has been for years the center of the fine paper-making industry—the Pittsfield-Dalton of Germany. Very evidently there has been large profit in this industry for the expensive villa homes of the mill owners, with their extensive grounds are numerous. About the year 1895 Richard Zander, the owner of one of the largest of these mills, with the laudable purpose of bettering the living conditions of his employees, purchased a tract of woodland on the outskirts of the town known as Gronauerwald. Through his initiative and the continued interest of his widow, there has been developed here a delightful Garden City, the first in Germany, perhaps in the world, for it ante-dates Letchworth by some five or six years.

Two Munich architects, Messrs. Boop and Will, planned the town and its first houses. Here, very appropriately dwells Dr. Bernard Kampffmayer, the President of the German Garden City Association, a delightful, mild-mannered gentleman who, we were told, suffered much for his uncompromising criticism of Prussian war methods. The genial doctor was on hand to greet our party in the pretty village square, showed us all about, and it is a pleasure here to acknowledge the help that the valuable data contributed by him has been in the preparation of this paper.

Some 200 acres of gently rolling upland was included in the first purchase, covered for the most part with forest trees, many oaks, pines and other evergreens. We were told that the price averaged 1 Mark (at that time, 25 cents) a square metre, or about $1,000 an acre. Only about half or perhaps less than 100 acres has as yet been developed, although plans have been prepared for the entire area. Along its northern border flows the pretty brook, the Gladbach of the district, and another smaller brook forms a part of the southern boundary of the built-up portion. Beyond these, both north and south, are groves or forests, eastward more open farm land, while to the northwest the village merges into the thriving paper mill town of Bergish-Gladbach. So much within and without the little community is woodland, it might more aptly be termed a Forest than a Garden City. It is, too, so near the larger town that it hardly meets the English ideal of a self-contained community.

Practically all of the northern or Gladbach Valley (see Plan) has been reserved as a natural park, a delightful footpath following close by the stream all the way on the side toward the village, with fine groves beyond. While there is a gentle rise all the way from west to east this is broken by two nearly level areas, a part of the most easterly one set aside for the village playground. Adjoining this to



PLAN OF GRONAUERWALD

the west some of the finest old forest trees are preserved in a small woodland park—playground and grove, thus forming the central feature of the design. The southern brook broadens to a small pond not far away and this with several acres of grand old trees near its shore, adds to the permanent greenwood conditions. The streets and buildings, too, are planned to spare the best trees of the original Gronauerwald.

Coming to other features of the town's plan, we note a main highway crossing the tract near its western boundary and that this is intersected near the northwest cor-

THE NARROW "WAYS," GRONAUERWALD, GERMANY

ner by another road that crosses the developed portion diagonally. At the crossway a square or plaza has been formed surrounded by rows of houses, some with shops on the ground floor.

The real village-centre, however, is north of the cross-road and a little further east. Here an open space, an irregular triangle, has been cleared in the forest, leaving at its center a noble oak. An exceedingly attractive "crescent" group of little shops, one of which is the post office, is at one side, these having apartments above, and half-timbered facades. Another side has been reserved for the village inn, not yet built,—its lot sloping to the brook, while the third side is occupied by cottage homes. The great oak has a stout bench all about it, and here "an der Eiche," as they call it, is the village Forum—mounted on this bench Dr. Kampffmaver addressed our party.

From "The Oak," streets and ways of varying widths lead in all directions. While the existing cross-road is laid out 15 meters in width none of the others are as wide, a few are 8 meters and many more are about 5.5 meters. As the illustrations indicate, in no instance is there any sidewalk. Neither is there anything that could be called a pavement for that matter. The soil being gravelly, apparently all that was done was to strip the loam, shape up the sub-soil, pave a narrow gutter at the property line and use the "way" for both walk and wagon. It is to be remembered, of course, that plans were made before the advent of the auto and that these have not yet become numerous. When they do, they will surely have to "go slow" at Gronauerwald.

There are no rows of shade trees, but plenty of shade from the fine old forest trees of the front door yards. The utmost care has been taken to preserve all the best of these, often in the center of a "square" or a "circle"—while the houses are placed to spare all good trees.

Mention has been made of the Brookside Park and path—the centrally located public groves and the large playground for active youth. Near this, too, occupying the center of an adjoining block, is a delightful play-place for the "littler" folks, with sand box and so on.

AN INTERESTING COTTAGE,
Gronauerwald, Germany

From the plan it will be noted that the "blocks" vary greatly in size and shape and that this naturally results in various shapes of house lots. Most of the streets are lined with neatly clipped hedges and where there are rustic fences these are usually vine-covered. Front door yards are generally small and almost always treated as a flower garden and always given the utmost care. Rear yards, too, are usually planted with vegetables and small fruits and most carefully cultivated.

And right here let it be noted that there is no sewage system at Gronauerwald, but each house has a very ingenious, inexpensive type of septic tank, the effluent being conveyed by porous pipes laid with open joints all about the rear gardens. The method has been working successfully here now for over a quarter of a century, the soil being gravelly.

Most of the older houses built in 1895 to 1900 are either detached or semi-detached

SEMI-DETACHED COTTAGE
Note simple rustic fence, soon to be vine-covered

A COMBINATION COOKER AND HEATER
Typical Cottage, Gronauerwald, Germany

cottages of various types of architecture, and 1½ to 2 stories high. Each has its "salle-commune" with a kitchen and a water-closet on the street floor and usually three small chambers on the floor above. Occasionally the attic, if there is one, is finished with one or more small rooms, but more often left for storage. The average superficial area per cottage is 73 square meters, including the usual storage outbuildings. While all are of the cottage type there is considerable variety in style and architecture, as well as color—many are white-plaster, others tinted buff and yellow, the uniform red-tiled roofs give a degree of harmony enhanced by the fact that there is no crowding. Each is in a good sized lot often 50 x 150 feet in area.

A very unique method of heating is employed in these houses, the heater, built of brown or dark green tile, is located in the kitchen (there are no cellars) and is so designed and placed that it not only serves for the preparation of the food, but by means of an unusual but simple arrangement of flues, heat is distributed to all the other rooms. There is also a special device for sterilizing fruits and vegetables. The village has ample public water, gas and electric lighting supplies from the nearby larger mill town.

While several hundred of these cottage homes were built at the beginning of the development and little was then done for several years, at the time of our visit, 1922, renewed building activity was shown, and here, as in elsewhere in Germany, the Government furnished at this time three-fourths of the amount necessary, the remaining one-quarter being raised by co-operative societies, or advanced by the management of the paper mills, and we were told that it is upon this one-fourth only that rentals are based, a most un-economic arrangement. These newer houses are most of them in rows, of from six to ten; few are semi-detached and still fewer detached. Most of them, too—as the plan indicates, have narrow deep rear yards.

Within the 100 acres now developed, there are approximately 400 houses, either built or building—about four to the acre, gross, that is including park, playgrounds, streets and ways—a very generous arrangement. Except for this liberality, however, while figures of the costs of the housing first built are not available, the project is very evidently conceived on most economical lines. Streets fitting the topography, there was little or no grading, the gravel sub-soil practically eliminated paving and there are no sidewalks or shade trees. Then, with the inexpensive sewage, plumbing and heating arrangements, with no cellars and with the comparatively small, low-studded rooms, surely there is no extravagance here, particularly in the earlier work.

The Zander family turned over the land at cost to the Co-operative Building Society that was formed in the early days to carry out this project. The rules of this Society favor the tenant becoming owner of his own home, but there are carefully drawn regulations preventing speculation. Most of the residents of Gronauerwald work in the Zander Paper Mills, but this is by no means obligatory, and while the mill owners contributed the land at cost, they retain no voice in the management, the administration of the little community being entirely in the hands of the Building Society, the small owners and the tenants.

This is certainly a delightfully picturesque and beautiful little town, and while the hand of man appears unobtrusively in roadway, hedge, cottage and garden, most of the natural aspects are carefully preserved, it is always the Gronauer Wald in which has been built some cottage homes.

Photo by Ford E. Samuel

RESIDENCE OF M. B. SKAGGS, PIEDMONT, CALIFORNIA
B. J. S. Cahill, Architect

GARDEN VIEW, RESIDENCE OF M. B. SKAGGS, PIEDMONT
B. J. S. Cahill, Architect

Fibre board lined forms and plaster molds were used

WESTWOOD BRANCH, SECURITY FIRST NATIONAL BANK OF LOS ANGELES
MORGAN, WALLS AND CLEMENTS, ARCHITECTS

SCHOUINARD SCHOOL OF ART, LOS ANGELES, CALIFORNIA
Morgan, Walls & Clements, Architects

Well studied design, will, in the opinion of Mr. Wagner, eliminate many of the faults of exposed concrete, a type of construction which seems to have grown in favor with the development of modern design. Mr. Wagner is associated with Morgan, Walls and Clements, Los Angeles, whose achievements in architecture have brought them nation-wide recognition.

ARCHITECTURAL CONCRETE—FORMS, MOLDS, AND SURFACES

by WILLIAM C. WAGNER

ARCHITECTURALLY treated, exposed concrete as an exterior finish for buildings, is a comparatively recent adaptation of the material, that requires, in addition to purely structural qualities, a smooth, durable finish and a definite sharpness of detail comparable to cut stone or carving. In our efforts to obtain the most satisfactory surfaces with this medium, we have revised many of our former opinions and extended our study to all agents and accessories that contribute to a concrete structure, for the uncertainty of success and the finality of the result make extreme care in preparation a mandatory consideration. Although the work is complicated by the nature of the material which places numerous limiting conditions on its uses, many of the faults of exposed concrete can either be eliminated or provided for by well studied design.

In building forms for architectural concrete there is no radical departure from the practice accepted for structural concrete, unless it be that they are lined with materials that control the character of the resultant surface. This discussion will therefore be confined to these materials and such variations from usual practice as are required to yield a satisfactory finish. Subsequent remarks may not receive complete concurrence from all who work with exposed concrete, because of such difference of opinion on the various points of procedure as result naturally from individual experience.

In a broad sense there are three types of wall treatment encountered in buildings—plain, ornamental and molded surfaces—each of which require a different type of form lining.

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Lined Forms for Plain Surfaces

For plain surfaces, forms are lined with a board of fibrous composition or with built-up wood panels, generally of three-ply construction and for ornamental and molded surfaces plaster casts and wood patterns are used.

To provide a rigid frame for attaching these linings, it is advisable to use 2-in. stock. The use of 1-in. stock is questionable economy, because, to overcome its tendency to buckle, more extensive bracing is necessary, with consequent additional expense of material and labor.

Fibre board is produced in large sheets which can be readily sawn to size; it is rigid and light in weight and it is easily nailed to forms or drilled to allow the passage of the wires. Since its smooth surface is almost entirely impervious to water, it is neither necessary nor advisable to attempt a waterproofing treatment. The application of shellac has been tried with the result that when the forms were stripped, the shellac adhered to the concrete and peeled the surface from the fibre board. This was removed from the concrete with great difficulty.

When adjoining sheets of fibre board are butted tight water will cause the edges to rise and leave depressions in the concrete. Where design requires joints to suggest stone, this characteristic can be used to advantage by cutting the fibre board to the required stone sizes. If no joints are desired, such depressions can be prevented by allowing an expansion gap of not more than $\frac{1}{8}$ in. for full sheets. This gap will leave a small cement fin which can be brushed off easily and with no damage to the surface. Further precaution against surface marring can be taken by burnishing all edges that occur at exterior angles, by driving all nails flush only and by nailing the fibre board to the same form board wherever practicable. In instances where nails have been staggered the action of the form boards has been sufficiently opposite to cause the fibre board to buckle and leave a wavy concrete surface. Depending on the length of time it remains in the forms, fibre board is likely to lose its smooth surface and some of its rigidity, so that the advisability of using it for more than one pour will depend on its condition when released from the forms.

Wood Forms

Except for occasional impressions from raised grain and the absence of fins and joint depressions, the surfaces obtained by the use of wood panels are comparable in texture to those resulting from fibre board. Grain impressions are not usually deep enough to be noticeable except in bright sunlight, but if they are objectionable the grain can be sealed. However, this might be relatively expensive, since the precaution is not necessary in the use of fibre board. When the edges of wood panels are planed smooth and butted tight there is no resultant swelling and it is not necessary to allow an expansion gap between panels. Therefore depressed joints can be obtained in one pouring operation only through the introduction of wood strips cut to required width of the stone joints. The advisability of using the same panels for subsequent pours can again be decided by their condition when stripped from the forms.

All wood milled for form lining should be as smooth as possible, kiln dried and entirely free of loose knots or other defects. Probably the best wood for this purpose is California white pine—and eastern white pine because their uniform grain has a negligible tendency to rise under the action of water. Due to the compactness of the grain, water-proofing is sometimes not necessary for these woods. However, they are soft and care must be taken not to damage their surfaces in puddling operations.

Paste fillers or shellac and varnish as seals for wood grain are not as satisfactory as lead and oil, because of the difficulty of obtaining a permanent bond that will prevent adhesion to the concrete. Since inferior grades have been known to stain concrete, a high grade of lead and oil should be used and unless the wood is painted on all faces, the water from curing operations will raise the grain by seeping under the lead and oil from the unpro-

tected surfaces. If care is taken in stripping, wood molds can be cleaned and used for subsequent pours according to the repetition of detail.

Plaster Molds

The term waste-molds is a descriptive designation of the plaster molds that are used to obtain ornamental surfaces and that are broken in stripping the forms — wasted so to speak. The amount of damage done to plaster molds in stripping depends on the nature of the ornament, and the extent of under-cutting, but in no case can they be removed in a condition suitable for re-use—in fact they sometimes have to be chopped from the concrete. Only in instances where the design is extremely simple is there a possibility of stripping plaster molds without serious damage; and where the design presents such simplicity the molds would doubtless be wood.

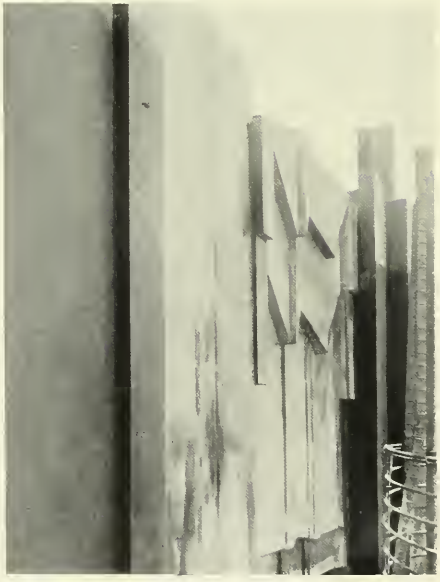
From the approved clay models made under the architect's supervision, plaster reverse molds are made. They are reinforced where necessary, and fitted with wood ties and bracing for building into the forms. In order to prevent the collapse of waste molds under the pressure of the concrete, it is advisable that they be not less than 1 in. thick at any point. Where a number of identical waste molds are required by the repetition of ornament, they are obtained by the use of a glue mold made from the reverse plaster mold. For safety in shipping, plaster molds should be well packed in sawdust.

Unless plaster molds are sized or fixed to prevent the absorption of moisture from the concrete, they may disintegrate and de-

An early example of exposed concrete employing plaster molds and ordinary board forms
BANK OF BALBOA, BALBOA, CALIFORNIA
Morgan, Walls & Clements, Architects, Los Angeles.

PLASTER WASTE-MOLD SET IN PLACE

FORMS PARTIALLY LINED WITH FIBRE BOARD



WASTE MOLDS, FIBRE BOARD IN PLACE

stroy the ornament, or the concrete may soften, spall and leave a rough surface. The application of two coats of thin shellac has been found the best and cheapest method of sealing plaster molds and while there are several other methods used in an attempt at economy, there is none as simple or efficient as the use of shellac. A mixture of gasoline and melted paraffin which is sometimes used as a substitute for one coat of shellac, seals the mold when the gasoline evaporates and leaves only the paraffin in the pores. One coat of shellac is required after this operation. The difficulty of using the gasoline mixture lies in the fact that the gasoline must be luke warm in order not to congeal the melted paraffin—and heating gasoline is not the safest of operations. There has also been some experimentation with slightly colored lacquer as a substitute for the initial coat of shellac. However, since the best results have been obtained with shellac and inasmuch as one coat of thin shellac has always been required to complete the waterproofing, it seems advisable to use shellac as the sole mixing agent.

Wherever pointing or patching of any kind is necessary for any type of form the best agent is a mixture of plaster of paris and shellac. The mixture sets quickly and leaves a hard, tough surface that can be sand papered, filed or polished, according to the nature of the surface desired.

Oiling Forms and Molds

After the lining materials have been installed in the form work, they must be oiled to simplify stripping. Wood molds that are not painted are given a coat of standard liquid form oil which soaks into the wood and requires no further attention. All lining throughout is next greased with a form oil that has a consistency of cup grease and finally wiped as clean as possible with rags, for any excess oil will cause unsightly stains on the finished surface.

Numerous methods are used with uniform success in greasing waste molds and which employ all kinds of lubricants from

cylinder oil to cup grease. In one case cup grease is thinned to the point where it can be applied with a brush, by the addition of a mixture of crystallized stearic acid and a small quantity of kerosene.

For anchoring the two sides of the form work, pencil wire ties equipped with collars and set screws are preferred to bolts, because they can be removed with less damage to the concrete. The tendency of such wire to stretch under pressure can be overcome by proper spacing of the ties according to conditions.

Concrete Mixtures

The study of the various concrete ingredients and their proportions in the mixture is the most important step in developing satisfactory exposed concrete surfaces, because it controls the workability and the limits of adaptability of the concrete to conditions of forms and ornament. Concrete control embraces the selection of aggregates, cement, sand, admixtures and water, and the testing of these materials in combination and for impurities.

The proportions of ingredients in the concrete mixture will be fixed by local building ordinances and by the water-cement ratio established for the developed strength required in the concrete. It seems a universal tendency to place concrete too wet and since excessive water is ruinous to concrete surfaces, great care must be taken to prevent a surplus of water. The success of the concrete finish is dependent upon the proper suspension of the materials. A minimum of water helps to prevent the weakening of concrete and the formation of rock pockets and voids. There are conditions of difficult placing, such as under-cutting in waste molds or projections beyond the normal wall faces, that demand a mixture of greater water content for proper workability, but this extra water is offset by a corresponding increase in cement. In all such cases of enriched mixtures, slump tests will determine the limits of richness. For plain surfaces proper workability requires a slump of approximately 4¾ in. in a specimen cone of a 6-in. diameter and 12-in. high. For varying conditions a mixture with as much as a 7-in. to 8-in. slump is often necessary. Similarly the concrete may vary from a mixture of 1 cement to 2½ sand, to 3½ rock or gravel, to a mixture of 1:3:3 or richer. For acceptance the concrete must develop a compressive strength of not less than 2000 lbs. per sq. in. in 28 days. Conditional acceptance at a seven day period requires not less than 900 lbs. per sq. in. A survey of a series of tests shows that for a slump of 7-in. to 8-in. the concrete has developed compressive strengths that vary from 1000 to 1800 lb. per sq. in. after 7 days.

Admixtures

Numerous properties are claimed for various concrete admixtures, among which are the tendencies to increase the workability of the mixture and to prevent efflorescence. From the standpoint of workability and finish alone, we have recently obtained more satisfactory surfaces by substituting an equivalent amount of extra cement for the admixture previously used. However, we do not necessarily subscribe to the idea that the use of admixtures should be abandoned for there is no doubt that they tend to increase the strength and durability of concrete, and admixtures which change the structure of hydrated lime are effective preventives of efflorescence. Other steps to prevent efflorescence are the usual rigid specifications governing the properties of the cement, sand, aggregate and water.

Placing Concrete

Before concrete is deposited all debris and drippings should be removed and the forms should be thoroughly wetted. To insure a uniformity of surface texture, the concrete should be transported as rapidly as practicable and as near as possible to its final position to avoid rehandling and so placed in the forms that no separation will occur. It should be deposited in continuous horizontal layers with a difference in levels not greater than 18 in., in order that there be a minimum flow of the concrete. Throughout the placing operations the con-

Concrete was placed against milled forms; surfaces throughout were brushed with cement wash as finishing material.

SCHOUINARD SCHOOL OF ART, LOS ANGELES, CALIFORNIA
MORGAN, WALLS AND CLEMENTS, ARCHITECTS

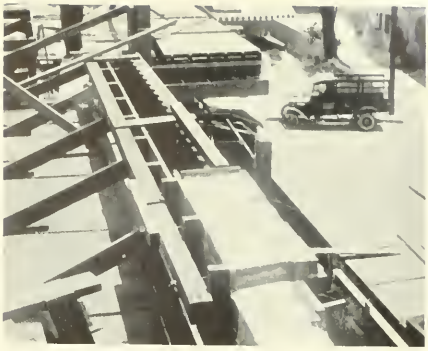
crete should be assisted into place by constant puddling to insure a uniform filling of all voids and an elimination of rock and air pockets by forcing air and excess water to rise to the top of the pour. By tapping the form boards the sand and cement are drawn to the outside of the wall and produce a smooth surface free from exposed aggregate. For agitating the concrete during the pour, puddling with wood strips is a safer operation than spading, because there is less opportunity to cut wire ties or mar the surface of the form lining.

When it has been determined where the pour is to stop a wood strip is tacked to the forms at the outside surface of the concrete wall. The pour is carried about ½ in. above the underside of the strip and sloped to the inside face so that laitance and excess water will drain to the inside face of the concrete which will be cleaned and plastered. About an hour later the strip should be removed and the concrete leveled off with a steel trowel so that any demarcation between the subsequent pour will be a straight line and therefore least noticeable.

Stripping Forms

Forms should ordinarily remain five to seven days before stripping and during this time the form work for the next pour is constructed. Before the next higher pour is made, the bottom whaler of the new form work is pulled as tight as possible against the top of the concrete previously poured to prevent soiling this surface by leakage of water and cement. Whatever water or laitance leaks through the bottom of the forms must be washed from the lower surface immediately in order to prevent permanent damage.

The removal of forms is an operation that requires extraordinary care to prevent damage to the concrete surface, and it is in this operation that the limitations of design become apparent. Design should provide means of disguising the variations between pours either by actual or painted architectural joints or by applied surface treatments. A mixture of cement and water applied with a brush will conceal slight discolorations and retain the natural color of the concrete.



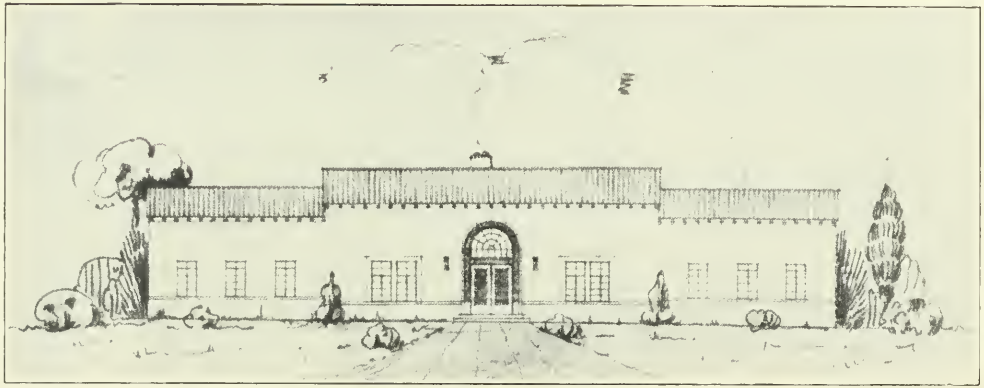
CONCRETE PLACED AGAINST WOOD MOLDS

For ease of stripping there should be no exterior acute angles. To allow for the uneven expansion of forms all exterior angles should be slightly obtuse wherever practicable because of the difficulty of removing the forms without spalling. On wide pilasters where a number of exterior angles occur, a series of kerfs to within ½ in. of the inside face and about 3 in. apart is a very effective method of relieving the possibility of damage to corners by absorbing the expansion of wood molds.

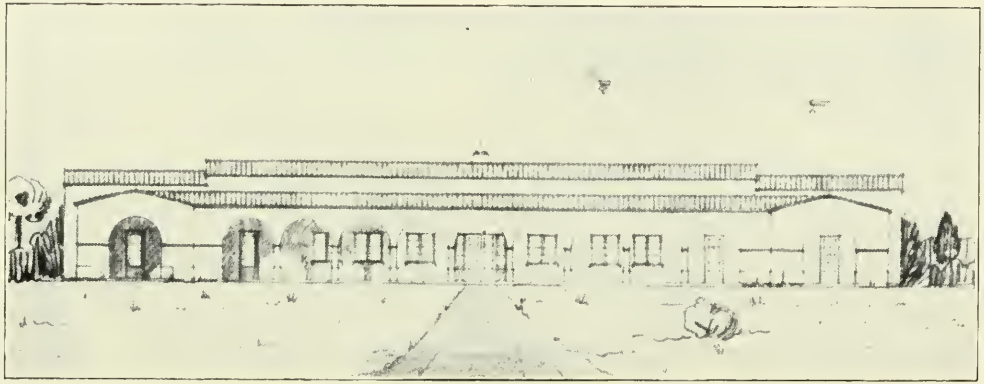
Patching and Curing

To prevent extreme variations in color, it is important that the proportions of the concrete remain constant for similar and contiguous conditions and that the same cement mortar mixture used in the concrete be employed in patching spalls, voids and wire holes. Patching should be done immediately after the surfaces have been inspected and cleaned of all laitance and projecting fins.

Satisfactory curing requires that the concrete be kept wet for at least seven days, but this period varies according to the structural conditions of the concrete. After proper curing the surfaces should be brushed clean of all excess cement that might roll up under a painter's brush or tend to defeat any efforts to apply a finishing material.



BOULDER CANYON PROJECT, POST OFFICE BUILDING, BOULDER CITY, NEVADA



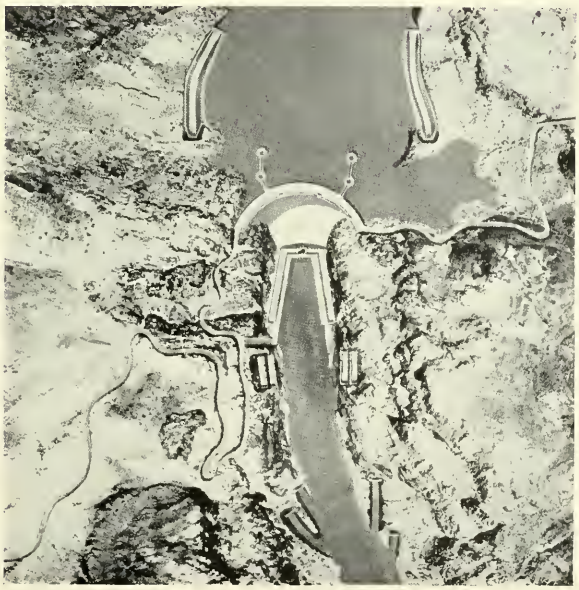
Courtesy Southwest Builder and Contractor

BOULDER CANYON PROJECT, DORMITORY AND GUEST HOUSE, BOULDER CITY, NEVADA

ENGINEERING

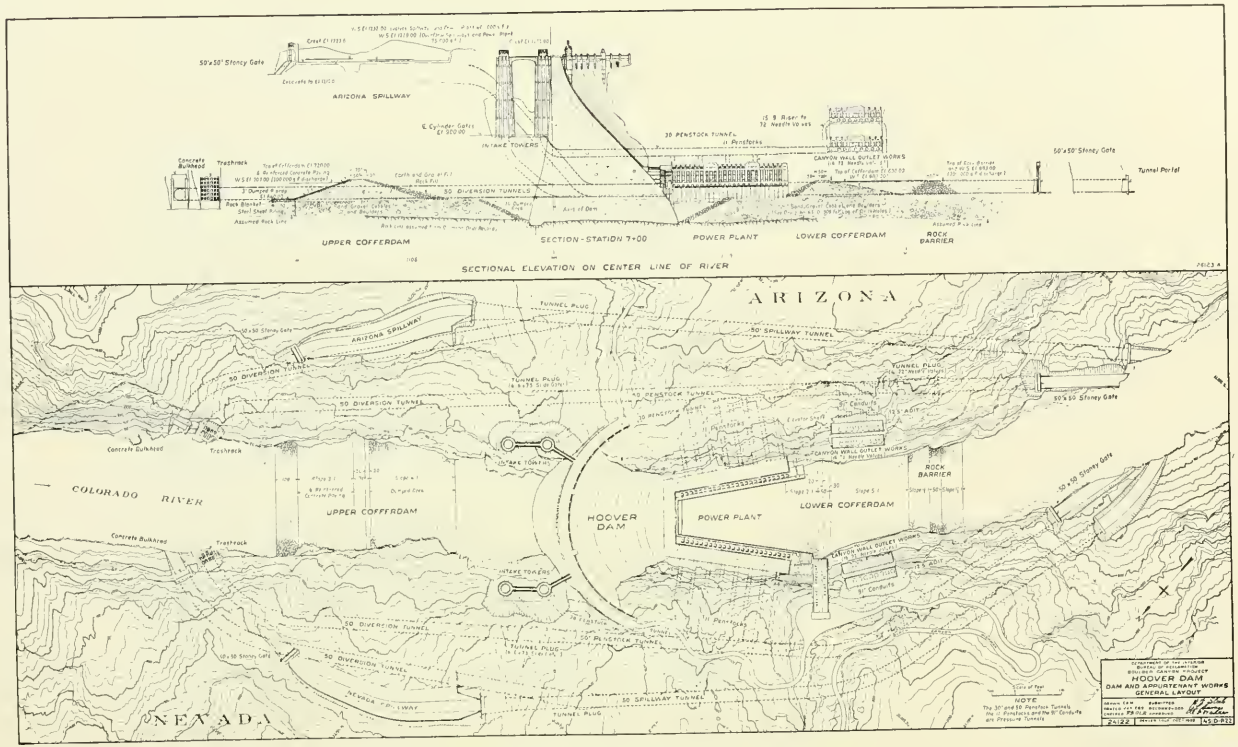
and

CONSTRUCTION



AIRPLANE VIEW OF HOOVER DAM AND RELATED WORKS
AS THEY WILL APPEAR WHEN COMPLETED

FEATURING THE BOULDER CANYON PROJECT



GENERAL LAYOUT, HOOVER DAM, BOULDER CANYON PROJECT, NEVADA

PLANS BY U. S. DEPARTMENT OF INTERIOR, BUREAU OF RECLAMATION

HOOVER DAM, WORLD'S LARGEST IRRIGATION PROJECT

by DR. ELWOOD MEAD

HOOVER DAM, contract for the construction of which was recently awarded to the Six Companies of San Francisco, will be equal to a 65 story building or nearly twice the height of any dam yet built. It will be 650 feet thick at the base.

The All American Canal, which will carry the stored water to irrigators in Imperial Valley, will be 200 feet wide, 22 feet deep, and carry 15,000 cubic feet of water per second. This canal has to pass through a windswept ridge of shifting sand where the excavation will be more than 200 feet deep. The aqueduct that is to carry water to Los Angeles and surrounding cities will be over 200 miles long, and will carry 1,500 cubic feet of water per second, which will have to be lifted 1,200 feet in order to cross the Sierra Divide.

Greatest Artificial Reservoir

The lake above the dam will be 115 miles long, 582 feet deep, and will hold 30,500,000 acre-feet of water, enough to cover the State of New York to the depth of one foot. It will be the largest artificial reservoir in the world, more than 11 times the capacity of the Elephant Butte Reservoir in New Mexico, and 12 times that of Assuan in Egypt.

These structures are given heroic proportions because a turbulent river has to be controlled and because the water needs of the Southwest are great and urgent. The reservoir must be large enough to hold the greatest flood. The flow below the dam must be regulated. No floods to break the levees and menace the homes, but always water enough to irrigate 2,000,000 acres of land and meet the requirements of many millions in cities. This dam is the basis of a civilization under which unnumbered generations will live. With it there is no known limit to growth and wealth, without it people must be notified to go elsewhere; the latter to Los Angeles is unthinkable.

Into the reservoir there will be dropped each year 100,000 acre-feet of mud. It has been made large enough to hold this deposit for two centuries without interference with its capacity as a regulator.

It is an enterprise which carries a challenge to the engineer, no matter where he lives.

Hoover Dam

The dam will be of the massive concrete arch-gravity type. It will be about 1,180 feet long on the crest and about 730 feet in height above the lowest point of foundation bedrock. The radius of curvature of the axis will be 500 feet. About 3,400,000 cubic yards of concrete will be placed in the dam out of a 4,400,000 total for all the works. A cut-off trench will be excavated in the foundation rock along the upstream toe. The foundation and abutment rock are to be drilled and pressure grouted, the holes being located at 5-foot intervals in one line in the trench. Grout holes will vary in depth up to a maximum of about 150 feet. The dam will contain a very complete drainage system, with a main drainage gallery parallel to the axis of the dam, connecting with radial drainage conduits discharging at the downstream toe of the dam. To provide for expansion and contraction the concrete will be built up in sections or columns. The setting heat of

the concrete will be dissipated by means of a refrigeration plant supplying and forcing cooled water through pipes imbedded in the concrete. In addition to the drainage galleries there will be a number of inspection galleries. Two elevator shafts will connect the two wings of the power house

guides, and other appurtenances, weighing 2,600,000 pounds, will be required. One of these gates will be installed in the upstream end of each spillway structure, and the other two gates at the downstream end of the inner diversion tunnels. Each gate will be 50 feet in height by 54 feet 7½ inches

HOOVER DAM, POWER PLANT AND ARIZONA OUTLET WORKS, BOULDER CANYON PROJECT
Artist's conception of work upon completion

with the top of the dam. The contractor must take out 857,000 cubic yards of common excavation for foundations of dam, power house, and cofferdams; and 400,000 cubic yards of rock for the dam foundation.

Two spillways will be constructed, one on each side of the river.

The outlet works on each side of the river will consist of two separate systems, each being regulated by a cylinder gate in the bottom of an intake tower, the two towers being about 185 feet apart in a direction parallel with the river.

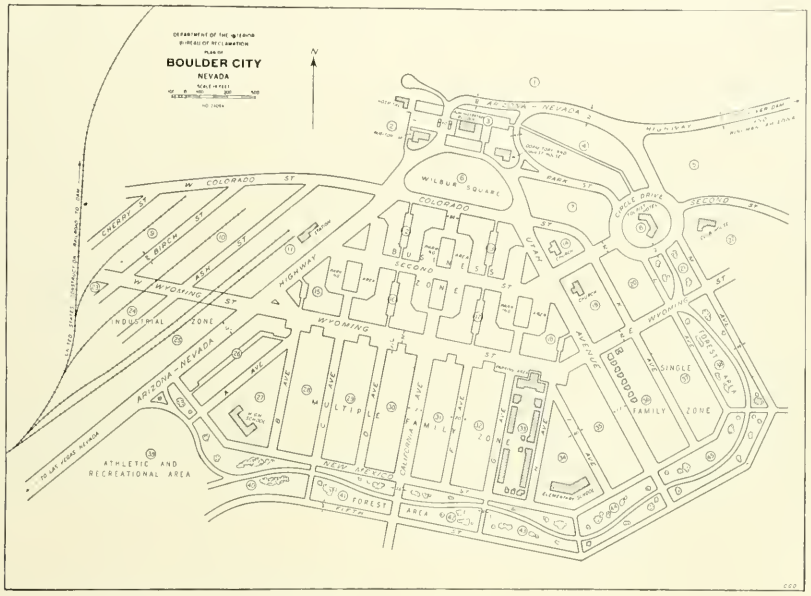
Gates and Other Machinery

Four structural steel Stoney gates with their hoists, counterweights, structural steel

in width, made up of structural-steel plate girders approximately 72 inches in depth, and mounted on caterpillar roller trains, running on heavy structural H-beams attached to the concrete structure.

The hydraulically operated high-pressure gates, 56 in number and weighing 10,340,000 pounds, include emergency gates in the upper and lower canyon-wall outlet works and the slide gates in the upper concrete plugs in the inner diversion tunnels. In each of the 30-foot diameter intake towers a 31-foot diameter by 10-foot cylinder gate will be installed, each gate with hoist weighing about 570 tons. Twelve 8-foot by 10-foot metal shutter

gates will be provided for each tower, to be used for closing the water passages for repairs to the cylinder gates. Forty 72-inch needle valves weighing 4,070,000 pounds will be installed, 32 of which are to be in the 4 canyon-wall buildings. Fourteen traveling cranes will be furnished by the



PLAN OF BOULDER CITY, NEVADA
Plans by U. S. Department of Interior, Bureau of Reclamation

Government for use in installing and maintaining gates, hoists, and valves. The 4 cranes in the intake towers will be 15-ton capacity; 36-foot span; in the canyon-wall outlets there will be 4 cranes of 30-ton capacity and 36.5-foot span.

Six Years to Build

The contract for the dam and tunnels involving close to $50,000,000 is one of the largest ever let in this country. The tunnels are to be finished in two years, the dam in six and one-half years. Considering its magnitude it has very few elements of uncertainty for the contractor. The Government is to buy and furnish cement and structural steel; the contractor therefore assumes no risk from fluctuations of prices. The four tunnels which will carry the river past the dam during its construction have been so thoroughly prospected by means of diamond drill cores that contractors know the kind of material to be removed. The cofferdam is the one hazardous feature of the project. It is to be built according to plans provided by the Reclamation Bureau, and when so built all subsequent hazards of its failure or being overtopped by floods are assumed by the Government. The power machinery is to be provided by the contractors for power. It will have the highest towers of any work ever undertaken and the overhead cables will lift 30 to 40 tons.

Boulder City Model Town

In connection with the dam project there will be expended by the Bureau of Reclamation about $2,000,000 in the construction of Boulder City, which is being planned to take care of the 3,000 or

more people who will have residence there during the construction period. The size of the population after the dam and power plant are completed is problematical, but it seems very likely that it will be a sizeable tourist town. With a main transcontinental highway as projected from Kingman, Ariz., on the east and crossing over the top of the dam, thousands of tourists will use this route on their way to the Pacific coast. The 730-foot dam and 115-mile lake will compete with the National Parks as scenic attractions. A maintenance force will also be needed at the dam and power plant.

The city plan provides that the streets, business section, residence section, and parks, be laid out as shown on the accompanying plan. Streets will be graded and oil surfaced, concrete curbings and sidewalks constructed, and street lighting system installed. The Government will construct a town hall, school, garage, dormitory and guest house, auditorium, administration building, and 75 cottages for its employees comprising five 6-room, nineteen 5-room, twenty-six 4-room, and twenty-five 3-room cottages; also 50 small garages, a swimming pool, and playground. About $600,000 will be expended on these features.

Water System for City

The proposed water system will have sufficient capacity for the needs of 3,000 people, together with incidental city uses. The water will first be pumped from the Colorado River to a mechanical presedimentation plant and then pumped in two lifts to a chemical treating plant, sand filter, and storage system at the city, with a total lift of about 2,000 feet. Sufficient distribution system is to be installed by the Government to make water available to each lot. The water system will cost upwards of $400,000. A sewage system to cost about $150,000 will also be constructed, to consist of city distribution, with service connections to Government buildings and a disposal plant located about three-fourths mile from the city.

The town planner of Boulder City is S. R. De Boer, who has a high reputation as a city planner in the mid-west. The houses and offices of the bureau staff have been designed by a Southern California architect and will follow the general lines of those in the Panama Canal Zone. Generous provision has been made for lawns and trees for shade and windbreaks, but planting of these will have to wait for the spring of 1932 as water for irrigation can not be provided early enough in 1931.

The specifications require contractors to house 80 per cent of their workers in the town. It will be administered much like the national parks and will be entirely under Federal control. Lots for residences and business purposes will be leased with rigid restrictions as to use. It will be a temperance town. The number of stores, shops, and moving-picture theaters will be restricted; otherwise every business would be overdone. The money received from leases will help pay operating expenses.

The heat under which concrete will be mixed and put in place, added to its chemical heat in setting, has led to provisions for inserting small pipes in the concrete as it is placed which will be filled with a freezing mixture. Later on these pipes will be filled with concrete.

Town Government

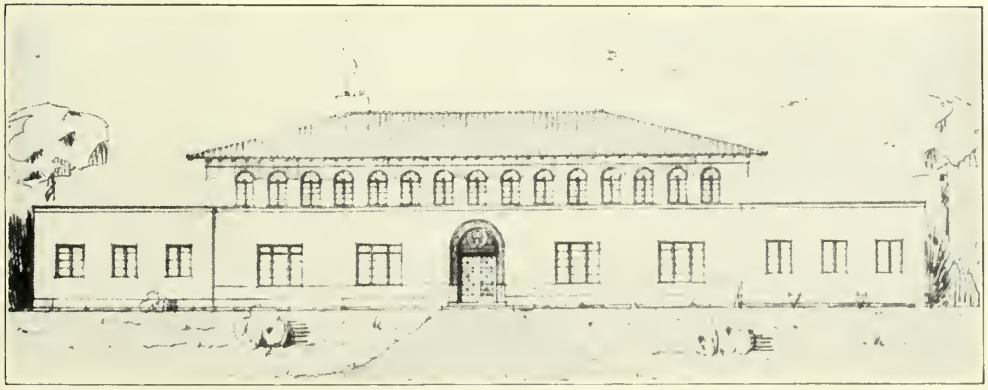
The administration of the town government will be in the hands of a commission of three, one of whom will probably be a representative of the contractor for the dam. A city manager will have direct charge under supervision of the commission with United States deputy marshals appointed as police officers. All operation and maintenance of water, sewer, and electric systems, streets, parks (with a combined area of about 10 acres), and other municipal works will be under the direction of the city manager. The duties of police judge will be taken care of by a United States commissioner and there will be a superintendent of public works with the usual city maintenance force.

Summit Site Selected

Due to the inaccessibility of the work, the magnitude of the operations, and the severe weather conditions during the hot

summer months, and having in mind the health, comfort, and general welfare of those engaged on the work, the town has been located at the "summit" on a saddle of the divide between the river area and Las Vegas. The elevation is 2,500 feet, which is about 1,000 feet higher than the top of the canyon at the dam site. The location is about 6 miles west of the dam site and 23 miles southeast of Las Vegas, Nev., on a branch line (now under construction) of the Los Angeles & Salt Lake Railroad, a part of the Union Pacific system. A main highway will connect Boulder City with Las Vegas and the dam, and will probably join with a highway from Kingman, Ariz., and the east, in the near future. This summit site has an average temperature 6° lower than that of any of the other sites under consideration. It is at the top of the divide with a rather steep descent to the north, and a uniform 3 per cent slope to the south, with hills both to the east and west. There is an unusually beautiful view to the north overlooking the proposed 145,000-acre reservoir 4 miles away. This lake will have an area 20 per cent larger than Lake Tahoe in California-Nevada.

The main axis of the town has been placed at a slight variation with the compass to give a more equal exposure of sunlight for all building walls. There will be no automobile parking allowed on streets, but provision will be made for parking on specially created open plazas in the downtown business blocks. In the business district the blocks have been provided with alleys, the interior part of which will be 46 feet in width, thus providing a loading and unloading space for trucks. Main through-arteries will be separate from business and residential streets. Street widths contemplated are as follows: Main highways 112 feet, roadway 56 feet, with possible extension to 76 feet; business streets 92 feet, roadway 56 feet; residential streets 60 feet, roadway 30 feet. All buildings in the town will be in harmony as to design. Different types of stores and business establishments will be given definite locations. Residential blocks have great length in the more densely populated districts as much as 900 feet, with an average width of about 260 feet. In the design of these residential blocks provision has been made for open plazas in the block interiors to provide small parks and playground facilities.



GOVERNMENT ADMINISTRATION BUILDING, BOULDER CITY, NEVADA

The ARCHITECT'S VIEWPOINT

- *Civic Beauty a Municipal Problem*
- *Architects have much to do with Improving Conditions*
- *Various Chapters and Clubs Support Movement*

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THE recent United States census indicates impressively that the population of the country is settling more and more in the larger cities for permanent residence. Time was when the nation was characterized as agricultural and the urban proportion of the population was small. This day is past and our country, an empire, in fact, is following the parallel course of the great empires of ancient world history, possibly to an ultimate radical change. Volumes have been written on the reasons for this migration and its analysis, but the movement continues—so long as man has independence of action the proportionate growth of cities will increase.

The assimilation of this influx of people to the cities is a marvelous problem and one coped with and solved with surprising success when its complexity is considered. To distribute these people into appropriate localities for residence, to supply them with utilities, electricity, gas, water, sewerage, telephones, transportation, policing, convenient access to churches, museums, schools, shops, places of amusement, recreation and exercise, clinics and hospitals, has meant and means the ever increasing coordination of the work of many departments of the city, utility corporations, and private institutions of service. The principle of Zoning was established just in time to prevent untellable confusion.

Many problems still face the city but there seems to be no lack of minds to take them up and work them out as they come.

Probably no profession comes more in direct contact with all the various angles of these activities than that of Architecture. The architect must know something and at times, much, about all of them and that notwithstanding the fact that frequently he becomes a specialist in some line of architectural endeavor. The calling is a serious one and demands much personal sacrifice of time for him to be able to answer the appeal for his public services. That this call is responded to is shown by the number of architects serving in public and semi-public capacities.

* * *

CITIES are not only built and arranged to be convenient places in which to work and live but they must be places of orderliness and beauty. It goes without saying that improvement of the civic mind and consciousness of civic beauty go hand in hand. Civic beauty cannot but impress a justifiable civic pride in the humblest of the citizenry and this pride is the obvious step to civic loyalty and personal co-operation in civic achievement.

It is obvious that as time goes on the authority and jurisdiction of municipal art commissions will be extended. Such commissions should be a clearing house for the design of all structures facing as well as built over or on the public streets and properties. As the commissions have veto power only, they are in no wise an impediment to the free will and movement of the owner, designer and builder. But they should be a rallying point for the furtherance of civic orderliness and therein lies their ultimate value to the community.

* * *

THE civic development of Santa Barbara is an interesting story. Even in the early days of her history there was a generally felt endeavor to build all structures, public and otherwise, in harmony with the natural surroundings, and the city's historical sentiment. The old mission buildings and what was left of the early adobe structures were standing as examples and guides. But prevailing taste and intelligence failed frequently to grasp what was so obvious and it was difficult to see how such structures as the simply planned adobes could be adapted to whilom domestic and business usuages. Following the influence of California's "Mission" buildings at the Chicago World's Fair in 1893, houses were designed in the first attempts at "California Mission". A City Hall was built in the middle of the City Plaza which was wrongly placed and architecturally bad but it and the other buildings kept the architectural lamp burning.

Finally, the restoration and development by Bernard Hoffmann of the old de la Guerra house and the adjacent property, known collectively as the Paseo de la Guerra, inspired the interest of the community and of all Southern California as well. Preparation for this architectural mindedness had already been made by the influence of the Panama Exposition at San Diego and to some extent by that at San Francisco. The guiding influence and almost complete authority of the City's Architectural Board of Control, established after the earthquake of six years ago, crystalized the idea into a settled conviction until today all new structures are being designed in what has become known as the Santa Barbara style.

It is interesting to note that this unanimity has kept on without the let and hindrance of a city art commission but unquestionably the influence of the city's board of control, which has now ceased to exist is still active. It will undoubtedly be re-established when the need arises.

* * *

THE State Association of California Architects, which includes in its membership every state licensed architect practicing in California, has before it the problem of assisting in this work of the right development of California's cities. The Association is in full co-operation of the State Chapters of the American Institute of Architects and the various local architectural associations and clubs. That its organization is being followed by similar ones in other states in indicative of its value and importance. All indications point to its developing co-operation with municipal boards of city planning, art control, building permits, inspectors and engineering on one hand and the associations of landscape architects, painters, sculptors and mural painters on the other.

The restoration of civic mindedness means the restoration of civic influence and power which the great centers of population enjoyed during the medieval era. This can be brought about only by enlisting the civic love, loyalty and devotion of every citizen, each one striving to make his city a better and more beautiful place in which to live.

Los Angeles CARLETON M. WINSLOW, A. I. A.

IMPORTANT REVISIONS TO ARCHITECTS' STATE LAW

PASSED BY 1931 CALIFORNIA LEGISLATURE AND SIGNED BY GOVERNOR JAMES ROLPH, JR.

SENATE Bill No. 487, amending sections three and eight of the act regulating the practice of architecture in the State of California, passed by the last Legislature, was signed May 11 by Governor James Rolph, Jr.

The amended sections, effective next September, place additional "teeth" in the law and extend the powers of the State Board of Architectural Examiners.

Text of the bill follows, the words set in italics being the amended portion:

SECTION 1. Section 3 of an act entitled "An act to regulate the practice of architecture," as amended, is hereby amended to read as follows:

Sec. 3. The state board may adopt rules and regulations to govern its proceedings, not inconsistent with this act. It shall adopt a seal for its own use and one for each of the district boards. The seal used by the northern district board shall have the words *state board of architectural examiners*, northern district inscribed thereon, and the one for the southern district board shall have the words *state board of architectural examiners*, southern district inscribed thereon, and the secretary and assistant secretary, respectively, shall have care and custody thereof. The secretary and assistant secretary, *in their respective districts*, shall keep an accurate record of all proceedings of the state board and the district boards, which shall be open to inspection by the public at all times.

Six members shall constitute a quorum of the state board and three members shall constitute a quorum of the district boards for the transaction of business.

Special meetings of the California state board of architectural examiners shall be called by the secretary upon the written request of four of its members, giving each member of said board twenty days written notice in advance, of the time and place of such meeting. District boards shall call special meetings upon the written request of two of their members made to the secretary and upon five days similar written notice to each member of the district board calling such meeting.

Within thirty days after the date of its appointment, the state board shall meet to organize, elect officers as in this act provided, and to formulate and adopt a code of rules and regulations for its government in the examination of applicants for certificates to practice architecture in this state; and such other rules and regulations as may be necessary and proper, not inconsistent with this act.

Said board may, from time to time, repeal, amend or modify its rules and regulations. The board shall meet annually on the second Tuesday in April, for the purpose of transacting such business as may lawfully come before it. The district boards shall hold their regular meetings on the last Tuesday of February, May, September and November of each year for the examination of applicants for certificates to practice architecture. The board of the northern district shall meet in San Francisco and the board of the southern district shall meet in Los Angeles. At such meetings the said boards may transact any other business that may properly come before them. The district boards may also hold other meetings at such times and places as they may elect.

The district boards are authorized to prosecute all persons guilty of violating the provisions of this act. Said boards shall have the power to employ legal counsel for such purposes, and may also employ inspectors, special agents, investigators, and such clerical assistants, as they may deem necessary to carry into effect the provisions of this act. They may also fix the compensation to be paid for such services and incur such additional expense as may be deemed necessary.

Any person shall be entitled to an examination for a certificate to practice architecture upon payment, with his application, to the secretary of the district board of a fee of fifteen dollars, which fee shall be retained by the board; should the applicant's examination prove satisfactory to said district board the secretary shall, upon payment of a further fee of ten dollars, issue to the applicant a provisional certificate signed by the president and the secretary, sealed with the seal of the district board, and directed to the California state board of architectural examiners, showing that the person therein named passed a satisfactory examination and is entitled to a certificate to practice architecture in the state, in accordance with provisions of this act. And upon said provisional certificate being filed with the said California state board of architectural examiners, the said state board shall at its annual meeting issue a certificate to the applicant to practice architecture in this state, duly signed by its president and secretary and its seal affixed, which certificate shall contain the name of the applicant, his birthplace and age, provided no charges of dishonest practice, of deception resorted to in obtaining a certificate, of gross incompetency in the practice of architecture or of any other violation of the provisions of this act, have been filed and substantiated with the state board. Proper index and record thereof shall be kept by the state board. If the provisional certificates be issued less than sixty days before the annual meeting of the state board, then the final certificate shall not be issued until the annual meeting next succeeding. A holder of a provisional certificate may practice architecture until said annual meeting. Certificates to practice architecture shall remain in full force until revoked or *suspended* for cause as hereinafter provided.

Sec. 2. Section 8 of said act is hereby amended to read as follows:

Sec. 8. A provisional certificate issued by a district board, or a certificate issued by the state board, may be *suspended for a period not exceeding one year* or revoked for dishonest practice, for deception resorted to in obtaining a

certificate, for a failure of recordation, for a failure to pay the annual license fee prior to the delinquency date, for gross incompetency in the practice of architecture, or for any violation of the provision of this act, which shall be determined solely by the board of the district in which the person, whose certificate is called in question, is residing or is doing business; and upon full investigation of the charges by the district board, reasonable opportunity having been given the accused to be heard in his own defense or by counsel.

The proceedings to suspend or revoke a certificate under the provisions of this act shall be taken in accordance with such rules and regulations as the state board has heretofore or may hereafter adopt, not inconsistent with this act. In all proceedings, the district board shall have power to take and hear the evidence touching matters under investigation, administer oaths and affirmations, and upon the hearing of such matters shall have power to compel the attendance of witnesses and the production of books, papers and documents pertaining to said matters under investigation by subpoena as in civil cases issued as hereinafter provided. Said subpoenas shall be issued by the secretary of the district board under the seal of the board and shall be served in accordance with the statutes of this state then in force as to the service of civil subpoenas generally, and all provisions of the statutes of this state then in force relating to civil subpoenas are hereby made applicable to the civil subpoenas provided for herein. In the event of the refusal of any person to obey a subpoena, the secretary of the district board may certify the fact of that refusal to the superior court of the county in which the service of said subpoena was made, and said court shall thereupon proceed to hear and determine the matter of the disobedience of said subpoena in accordance with the statutes of this state then in force concerning a contempt for disobedience of the process of the court. No witness shall be compelled to attend a hearing outside of the county in which he resides, unless the distance be less than fifty miles from his place of residence to the place of hearing.

In all cases involving a violation of the provisions of this act, depositions of witnesses may be taken, in the same manner for the taking of depositions in civil cases, and all of the provisions of the statutes of this state then in force as to the taking of civil depositions are hereby made applicable to the taking of depositions under this act.

The vote of four members of the district board shall be sufficient to *suspend* or *revoke* a certificate or *provisional certificate*. Upon the *suspension* or revocation of either of such certificates, it shall be the duty of the secretary of the district board to give notice of its action to the county recorder of the county in which the certificate was recorded; whereupon, the recorder shall mark the certificate of such architect, recorded in his office, "*suspended*" or "revoked". Record of *suspension* or revocation shall also be filed with the California state board of architectural examiners, *by the said district board secretary.*

After the expiration of *one year* the person whose certificate has been revoked may file application with a district board for a new certificate.

OPENS SAN FRANCISCO OFFICE

The Clay Products Institute of California, which heretofore has maintained an office only in Los Angeles, has established itself in San Francisco with offices in the Rialto Building in charge of M. C. Paulsen. It is the intention of the Institute, through Mr. Paulsen, to promote and encourage the use of clay products in Northern and Central California. Semi-monthly meetings will be held at the Hotel Stewart to discuss general business and trade conditions.

FLOODLIGHTING REVEALS BEAUTY OF ARCHITECTURE

The accompanying picture shows a night view of the new chapel of St. Vincent's Orphanage situated a few miles from San Rafael, California. It is illuminated by eight General Electric 1000-

watt floodlights mounted in two groups of four each on 50-foot poles 300 feet from the front of the edifice.

Two similar floodlights installed in the belfry, with red color lenses, accentuate the graceful lines of the main tower. The beauty of the stained glass window over the entrance is brought out with a special fixture projecting light from within the chapel.

SKETCHES FOR TWO HOTELS

Sketches have been prepared by Frederick S. Harrison, architect, of Sacramento, for two hotels, one to be built at Sacramento and the other in Auburn, California.

STOCKTON THEATER

Plans have been completed by Bliss & Fairweather of San Francisco for a new theater in Stockton to cost $170,000.

POSSIBLE SOLUTION OF TRAFFIC CONGESTION

advanced by WILLIAM A. STARRETT

CONSTRUCTION of huge terminals fed by water, rail and truck transportation to serve industries now scattered throughout city areas, is the most enlightened solution to the traffic congestion now rapidly strangling all our big cities, Colonel William A. Starrett, president of The Starrett Corporation, told members of the National Association of Real Estate Boards. Leveling criticism at existing structures within our cities will get nowhere, Colonel Starrett said, because traffic is a problem in itself which must be solved as such.

Citing authoritative figures to show that financial losses to a community due to traffic congestion assumed huge proportions and in New York City reached $1,000,000 per day for trucking losses alone, Colonel Starrett placed responsibilty for much of this congestion at the door of manufacturing and industrial enterprise in ill-suited localities which he said added to the burden because of over-the-sidewalk deliveries to trucks. One example which he cited of a midtown industrial establishment showed rental costs of 75 cents per square foot with unnecessary trucking and handling charges amounting to an additional 30 to 40 cents per square foot—charges which might be avoided had the establishment been served by rail. In this connection he said:

"The truth is that sidewalk truck delivery is a makeshift growing out of numerous causes, one of which is our original failure to realize the tremendous avalanche of traffic congestion that motorization would entail. It is destined to correction eventually, either by drastic legislation or by the voluntary provision by the owners in these congested areas of suitable trucking space within the property building line."

The solution offered by Colonel Starrett is already being translated into fact by the Starrett interests. The Starrett-Lehigh Terminal is now being constructed at 26th-27th Streets, 11th-13th Avenues, New York, and the Colonel believes it to be the forerunner of similar construction to relieve congestion not only in New York but in other large cities where the grouping of industrial enterprises is both a sound business proposition and an advantage to the community. His comments upon it were as follows:

"It seems to us that no other solution is feasible, bearing in mind the necessity that many industries have for proximity to the large, congested areas which they must in part serve. Moreover, it is an answer to the problem of movement of employees, who cannot always be taken to remote factory locations. City life in many aspects is very agreeable to industrial employees and while certain great industries properly remove themselves to remote locations there is still strong demand that the large cities shall contain in convenient locations their industries that, in large measure, made them.

"When water and rail and automotive transportation can be joined up in a great terminal where, under the same roof, executives, sales and clerical forces, display rooms, manufacturing, storage, assembly and distribution can all be carried on in a single terminal unit, we have obtained a measure of relief from unnecessary transportation and, to a certain extent, have defeated the major affliction of modern metropolitan life—traffic congestion."

The lengths to which design and facilities go to make the Starrett-Lehigh Terminal an outstanding structure to reduce traffic congestion and reduce costs of industrial operation was clearly brought out in the description of the building given by Colonel Starrett. It is 19 stories high with 18 and 9-story wings, having a cubic foot capacity of over 26,000,000 and a floor area of 1,800,000 square feet which will afford a straight line production of more than 600 feet on certain floors. Six tracks of the Lehigh Valley Railroad give a capacity for 52 mobile cars at one time and permit direct access to motor trucks within the terminal. Being fed by water, rail and truck

transportation and having an unusual location, it gives outstanding facilities for distribution to all of New York City and the state as well as New Jersey and Long Island.

Every floor in this structure is equivalent to the ground floor. Motor trucks drive into the elevators, are hoisted to the designated floors to unload in depressed loading pits and then make exit on another street. Freight arriving by rail is handled by electric trucks on special loading platforms and likewise carried to designated floors by elevator. These elevators handle truck shipments and are so large as to accommodate any size of loaded truck.

Another unique feature of this building is its lighting. Cantilever construction allows supporting columns to be set back 8 and 9 feet from the exterior walls so that windows are continuous frames without piers. This assures maximum daylight for all activities carried on within the terminal and they will cover a wide range—manufacturing to administration, with such special services as a barber shop, cafeteria and a first aid hospital.

According to Colonel Starrett, the terminal involves an investment of $10,000,000 and will provide facilities at such rates, compared with other buildings, as to answer the demand for more economy in production.

CLAY COMPANY ACTIVE

Announcement is made of the retirement from active business affiliation of N. A. Dickey, president and manager of the W. S. Dickey Clay Manufacturing Company, San Francisco. Mr. Dickey is succeeded by E. C. Moore as manager. Mr. Moore has been associated with the company for the past fourteen years, first in the capacity of traveling auditor, later as office manager and up to a short time ago as sales manager. The company will continue its main offices at 116 New Montgomery Street, San Francisco, with yards in San Francisco and Oakland, and plants in Niles and Livermore.

Special attention will be paid to the roofing tile department and the development of new textures will be undertaken. The company supplied all the roofing tile for the additions to the San Francisco Hospital. A contract for the hollow tile partitions in Mills Tower, San Francisco, was recently closed and the company has just completed a consignment of some 470,000 face brick for the Marine Hospital, San Francisco.

STEEL CASEMENTS EASILY INSTALLED

To improve steel casement window installation, and to save much of the time required to erect even ordinary windows in a house, the Detroit Steel Products Company announces that Fenestra steel casements are now available from factories and local warehouses, with wood "surrounds" already fitted and securely attached with copper-coated screws in a bed of mastic.

This casement is fitted with "wood surrounds" securely attached with copper-coated screws in a bed of mastic.

Installation of this new Fenestra window assembly is said to require only the time of setting the unit in place and plumbing it. Cutting and fitting of trim on the job are eliminated. The steel swing leaves are, of course, already factory-fitted and hinged and hung in the steel casement frame; and all steel has received a priming coat of paint.

Building paper extends over leg of "surround," to make a snug-tight installation. In masonry walls, the "surround" gives the mason a "liner" for laying up brick or stone quickly and neatly. A feature of the design is the provision of slots in the backs of the "surrounds" to receive and to accurately locate plaster grounds.

California redwood was selected as the material for the "surrounds", the manufacturers state, primarily for its durability even when unpainted.

BOOK REVIEWS

By Edgar N Kierulff

MODERN ARCHITECTURE (Being the Kahn Lectures for 1931), By Frank Lloyd Wright. Published by Princeton University Press, Princeton, N. J. Price $4.00.

A really remarkable book and one which, no doubt, will cause from some quarters, more or less criticism, but it is to be hoped that critics will not be blind to the many merits of the book and will be generous enough to see the lessons it can and does teach.

The Table of Contents should awaken the interest of those who, in reading this review, feel that having read many other volumes on Modern Architecture, this can be but one more. Table of Contents includes such interesting subjects as:

Machinery, Materials and Men.
Style in Industry.
The Cardboard House.
The Passing of the Cornice.
The Tyranny of the Skyscraper.
The City.

I believe that most of us will disagree with the author, which does not prove, however, that he is in error, when he says on page 77 that:

"A home is a machine to live in,
A tree is a machine to bear fruit.
A plant is a machine to bear flowers and seeds."

This is a trifle difficult to see in the same light as the author sees it but we can all be open to concrete proof or at least can listen to good argument.

The illustrations are pleasing and the Format of the book is good.

CAMPS IN THE WOODS, By Augustus D. Shepard, A.I.A. Foreword by Robert W. Chambers. Published by the Architectural Book Publishing Co., 108 West 46th Street, New York City. Price $6.00.

A very lovely book depicting some charming permanent camps, the majority of which are located in the west central portion of the Adirondack Mountains, New York State. As many of these camps are situated along the shores of lakes, boat houses and landing facilities are given splendid consideration, as are likewise lodges and club houses.

The photography leaves nothing to be desired and this book offers to the architect interested in country and mountain dwellings, a fund of information and suggestions for enlarging his ideas on planning such types of houses.

UNIVERSAL ATLAS HANDBOOK OF CONCRETE CONSTRUCTION, Published by the Universal Atlas Cement Co., 208 South La Salle St., Chicago, Ill.

An excellent handbook on concrete construction, to be had for the asking from the above company. It contains a wealth of fine technical information, figures, plans, sketches and tables. The book is pocket size and well printed. Address the Handbook Department.

ARCHITECTURAL AND ORNAMENTAL MONEL METAL. Published by the International Nickel Company, 67 Wall Street, New York City, N. Y.

The above company has recently issued an Architectural Guide containing interesting data on the patterns, forging, finishing and moulding of this new metal, with sketches and details and photographs of finished products. Architects should find this brochure of interest. All information desired by Northern California architects on the monel metal products may be obtained by communicating with the Pacific Metals Company, 18th and Harrison Streets, San Francisco, licensees for The International Nickel Company.

NEW TYPE OF CONSTRUCTION

C. E. Grunsky, consulting engineer of San Francisco, has proposed a new type of construction for dams which he calls a "honey-comb gravity dam." It consists of horizontal or inclined cells in tiers extending down-stream from the solid concrete upstream face of the structure. The successive tiers would be separated by construction joints. Vertical construction joints extending the full height of the structure would divide it into blocks. Advantages of the proposed design are that the cells or galleries would provide adequate drainage, would minimize the effects of heat generated by setting of the concrete, and would save material. Pressure of the impounded water would be utilized to give stability to the dam by a 4 to 3 slope on the upstream face. To make the structure watertight, a metal diaphragm would be imbedded in the upstream face.

WITH the ARCHITECTS

A NEW CITY PROPOSED

Guy Wilfrid Hayler, City and Regional Planner of San Francisco, has been commissioned to make a survey of development in the Redwood City-Palo Alto area for the Bohannon Realty organization which is laying out a new city to be called Belle Haven, three miles from Redwood City and one mile from Palo Alto. The city comprises the tracts known as Menalto Park, Newbridge Park, Bay Shore Park, Belle Haven and the industrial frontages on San Francisco Bay which will be brought into immediate occupation by the advent of the new line of the Western Pacific Railroad into the San Francisco Peninsula.

CLASS A HOSPITAL ADDITION

Plans are being prepared in the office of Albert C. Martin, 228 Higgins Building, Los Angeles, for a ten story Class A addition to the Queen of Angels Hospital. Provision will be made for ninety additional beds. The owners plan to spend $400,000 on the improvements.

CLAREMONT GARDENS

A new building tract known as Claremont Gardens, is being developed at Claremont and Eton Streets, Berkeley, by John F. Whalen, who expects to spend $100,000 or more on the improvements. The landscape work is being laid out by J. H. Platt.

STANFORD STADIUM ALTERATIONS

Shirley Baker, engineer with offices at 58 Sutter Street, San Francisco, has prepared plans for remodeling the stadium at Stanford University, Palo Alto. All of the wooden stairways will be replaced with concrete and additional toilet facilities will be installed.

FAVORS GOLF COURSE

G. A. Pehrson, architect,is quoted in Spokane newspapers as being in favor of the construction of an additional municipal golf course, commenting that such an undertaking would give some employment to idle people as well as relieve congestion on present courses.

PLAN MOTEL UNITS

Plans for construction of "motels," at a cost of $180,000 each, in Sacramento, Fresno, Bakersfield, Paso Robles, Santa Barbara, and Los Angeles, by National Motor Inns, Inc., are announced.

Properties in all of those cities are under option as sites for the "motels." The projects each would include bungalows, administration quarters, kitchen, dining room, service station, and swimming plunge. Construction will start on the Santa Barbara project within a month.

Among the men mentioned as being connected with the concern, are Henry W. McClure, former treasurer of Mitchum Tully Company, F. A. Corbusier of the Western Pipe and Steel Company, Norman F. D'Evelyn of the D'Evelyn Advertising Agency, and Marvin Curtis, Jr., formerly of Sanborn & Co.

SAN FRANCISCO APARTMENTS

Plans have recently been completed by R. R. Irvine, Call Building, San Francisco, for a three story frame apartment building at North Point and Fillmore Street, San Francisco, to cost $80,000 and a structure of similar size and about the same cost at Fillmore and Jefferson Streets, San Francisco, both for Ben Liebman, 1555 Francisco Street.

EIGHT STORY TOWER

A new city hall at Beverly Hills, which will have an eight story tower, is being designed by Korner & Gage, 469 North Camden Drive, Beverly Hills, for the city of Beverly Hills. John C. Austin and Frederic M. Ashley of Los Angeles are consulting architects for the $400,000 structure.

LOFT BUILDING ALTERATIONS

Extensive alterations are to be made to the three story store and loft building on the southwest corner of Grant Avenue and California Street, San Francisco. Plans have been prepared by G. G. Shimamoto, 1515 Laguna Street, San Francisco.

STUDENTS WIN PRIZES

Nine prizes and medals have been awarded to students in the Department of Architecture at the University of California, for outstanding work in this field of study during the last year.

The Delta Sigma Chi prize, consisting of an order of books, was won by E. Branch Chinn, Fresno, for a bookplate sketch.

The prize offered by Alpha Alpha Gamma was won by Burton D. Cairns of Palo Alto. Cairns also was chosen as the recipient of the medal offered by the American Institute of Architects for the student having the most distinguished record in his university work.

The prize offered by the Architectural Association for the best single piece of work in graduate design was won by Vernon A. DeMars of Oakland. DeMars also was awarded one of the school medals for specially distinguished work in the solution of a problem.

Other winners of school medals were: Grant D. Christensen, senior, from Ocean Park; Donald P. Smith, graduate from San Diego, and Allen R. Johnson, graduate from El Paso, Texas.

CHARGE DISMISSED

B. K. Dobkowitz, 425 Monterey Boulevard, San Francisco, accused of violating the state act regulating the practice of architecture, was found not guilty by a jury in the court of Judge Alden Ames. Dobkowitz was charged with using the title "architectural designer" which the State Board of Architectural Examiners held was in violation of the law.

OAKLAND LAUNDRY

Plans have been prepared by Miller & Warnecke, architects, Financial Center Building, Oakland, for the new plant of the Oakland Laundry Company at 730 29th Street. The structure will be of steel truss construction, 175 to 280 feet and will cost $50,000. French in style, the building will have brick exterior with roofing of slate and tar and gravel.

BURLINGAME APARTMENTS

Edwards & Schary, architects, 605 Market Street, San Francisco, have completed drawings for a $40,000 residence-apartment building in Burlingame. The construction work will be handled by Joseph Moore, who is the owner of the property. There will be fifteen apartments.

CONVENTIONS, COMPETITIONS, ETC.

June 1-5	International Town Planning and Housing Federation Congress, Berlin.
July 10-Aug. 30	Vacation-study tour of housing, arranged and directed by The Garden Cities and Town Planning Association, London, in cooperation with the City Affairs Committee, 112 East 19th Street, New York City. For information, address Helen Alfred, Housing Chairman.
August	Art Exhibition, Royal Scottish Academy, Edinburgh.
October 1	Closing date for entries for Lincoln Arc Welding Prize competition. Address inquiries to the Lincoln Electric Company, Cleveland, Ohio.
October	Annual Convention State Association of California Architects at Riverside.
November	Exposition of Indian Tribal Arts, Grand Central Art Galleries.

SEVEN STORY HOTEL

Plans have been prepared by H. C. Baumann, architect, 251 Kearny Street, San Francisco, for a seven story steel frame and concrete store and hotel building to be erected at the gore of Market, Herman and Laguna Streets, San Francisco, for Harry B. Allen, Inc. The building will contain approximately six stores and one hundred fifty homes. It will have two passenger elevators. The estimated cost is $200,000.

POST OFFICE ADDITION

George W. Kelham, architect, of San Francisco, has been commissioned by Secretary of Treasury Mellon to prepare plans for a two story and basement Class A addition to the San Francisco Post Office Building, 7th and Mission Streets. The addition, with alterations to the present structure, is expected to cost in the neighborhood of $750,000.

STORE IMPROVEMENTS

Extensive alterations are to be made to the Class C store and loft building on Grant Avenue, between Post and Sutter Streets, San Francisco. The new lessees are Podesta & Baldocchi, now at 224 Grant Avenue. Plans are being prepared by Bertz, Winter & Maury, architects.

COLONIAL HOUSE

Plans have been prepared by Joseph Losekann, architect of Stockton, for a $16,000 Colonial house for George S. Schuler. Plans have also been prepared by Mr. Losekann for a new class room building at the Stockton High School.

LOS ANGELES PASSENGER TERMINAL

An order of the California Railroad Commission, issued nearly four years ago, directing the Atchison, Topeka & Santa Fe Railway Company, the Los Angeles & Salt Lake Railroad Company, and the Southern Pacific Company to build a union passenger station in the city of Los Angeles, has been sustained by the United States Supreme Court in a decision handed down May 18.

This action of the United States Supreme Court also upholds the decision of the California Supreme Court rendered in May, 1930, sustaining an order of the Railroad Commission directing those carriers to construct and operate a union passenger station in the so-called Plaza area in the city of Los Angeles, at a cost of approximately $10,000,000.

ARCHITECT LAUDS SKYSCRAPER

The skyscraper type of structure, originated in Chicago, is the greatest contribution to architecture and building since the renaissance, E. N. Curtis, architect, of San Jose, told members of the San Jose Engineers' Club recently.

Speaking on "New Methods of Building Construction," he traced the development of building from the beginning of architecture in Egypt and Greece to the present time. The present period, he pointed out, is characterized particularly by its use of old materials in new ways and its extensive use of metals, glass and color.

RENO ARCHITECT BUSY

One of the busiest architect's offices on the Coast is that of F. J. DeLongchamps, Gazette Building, Reno. Besides a new courthouse, Mr. De Longchamps is preparing plans for a substantial dadition to the Hotel Riverside, $140,000 general hospital for Washoe County, Casino at the race track and a new post office building for the United States Government.

VETERAN'S MEMORIAL BUILDING

Plans have been prepared in the office of Paul L. Dragon and C. R. Schmidts, Mercantile Bank Building, Berkeley, for a Veteran's Memorial Building at Fort Bragg to cost $17,000. The same firm has recently completed drawings for a $20,000 drive-in market in Berkeley for the Roy Long Company.

PERSONAL

Chester H. Treichel, architect, announces that Herbert E. Goodpastor, architect, has become associated with him in the practice of architecture. The new firm will be known hereafter as Treichel and Goodpastor, with offices in 409-410 American Building, Oakland.

Howard L. Gifford, architectural designer, has taken offices at 1037 Chamber of Commerce Building, Portland, to handle general architectural designing, specializing in perspective renderings in color or black and white.

Ogden F. Beeman, architectural engineer, has opened an office at 725 Hutton Building, Spokane, Washington. For six and one-half years Mr. Beeman worked with Stanley Smith, head of the Department of Architectural Engineering at Washington State College.

Charles Butner, who has been practicing architecture in Fresno for sometime, has opened an office in the Elikbarg Building, Salinas, California, in which city he will make his home. While in Fresno Mr. Butner designed several of the city's largest school buildings as well as churches and residences.

OAKLAND ARCHITECTS BUSY

Messrs. Reed and Corlett, architects, Oakland Bank Building, Oakland, have completed working plans for a one-story and basement store building to be erected on the west side of Broadway, 100 feet north of Twentieth Street, Oakland, for Albert W. Kern and Samuel Hamberger. The building will have two 20-foot stores and will probably cost about $30,000.

The same architects are preparing plans for a one-story, brick, steel and concrete warehouse, for the Howard Terminal Company, at First and Market Streets, Oakland. The work is expected to cost $40,000, and will provide for a fireproof structure, approximately 140x150 feet, with tile roof, concrete floors, steel sash and rolling doors, wire glass, etc.

SKETCHES AND WATERCOLORS

Sketches and watercolors by Ted Jacobsen, were exhibited before the Tacoma Society of Architects at the noon meeting held April 20 in the studio of Silas E. Nelson and Fred C. Rounds, 905½ Commerce Street, Tacoma.

WARREN HINCKLE APPOINTED

Warren Hinckle, architect, has been appointed State Housing Director to succeed the late Robert Greig. The work of harmonizing the efforts of building inspectors, health officers and architects will occupy Mr. Hinckle's immediate attention. He will have charge of such problems for all the territory north of Bakersfield, and will maintain an office at the State Building in San Francisco. Mr. Hinckle was formerly associated with John J. Donovan, architect, and more recently had an office of his own.

STATE BILLS PASSED

Senate Bill 487, amending the law regulating the practice of architecture, passed the Legislature and has been signed by the Governor.

Assembly Bills 615 and 616, amending the law regulating the practice of civil engineering, passed the Legislature. No. 615 has been signed by the Governor and the other awaits his action.

Assembly Bill 1867, amending the contractors' registration law to increase the fee from $5 to $10 per year, passed the Legislature and has been signed by the Governor.

Senate Bill 732, making numerous amendments to the contractors' registration law, passed the Legislature and has been sent to the Governor for his signature.

JOHN BYERS' WORK

During the latter part of May recent work of John Byers, architect, was displayed at the Architects' Building Material Exhibit, Fifth and Figueroa Streets, Los Angeles. Adobe construction, particularly suitable to the California type of architecture, was an interesting feature of the exhibit.

A number of preliminary sketches of the beach residence to be built in Santa Monica for Mr. and Mrs. Irving Thalberg (Norma Shearer) were shown. It is the French Provencal style of architecture and will include, among many other interesting features, a projection room for sound pictures.

DEAN LAWRENCE HONORED

Ellis F. Lawrence, dean of the University of Oregon school of architecture and allied arts, was recently elected president of the American Association of Collegiate Schools of Architecture. Mr Lawrence has been at the University since 1914 He is nationally known for his architectural achievements. He has served on juries of awards for numerous architectural competitions throughout the country.

ALFRED F. PRIEST

Alfred F. Priest, architect, died at the Hollywood hospital May 2 after an illness of two months. Mr. Priest resided at 241 Kenneth Road, Glendale, and maintained an office in Los Angeles in the Fay Building. He was 42 years of age, a native of Nebraska and came to California 25 years ago. He designed many school buildings, commercial structures and residences in Los Angeles and Ventura counties. He was the architect of the Herbert Hoover high school, Eleanor J. Toll and Theodore Roosevelt intermediate schools, the Elks' clubhouse and the Kiefer & Eyerick mortuary in Glendale.

Mr. Priest was a member of the American Institute of Architects and a director of the State Association of California Architects. He was also an active member of several fraternal orders, including Glendale Lodge of Elks, Unity Lodge, No. 368 F. & A. M; Unity Chapter, No. 116, Royal Arch Masons; Glendale Commandery, No. 53, Knights Templar, and Al Malaikah Temple, Order of the Mystic Shrine.

VALLEJO GARAGE

Claud B. Barton, architect, of Oakland, has completed plans and bids have been taken for the construction of a one story steel frame and brick auto sales building and garage in Vallejo for the Acme Motor Company. About $50,000 will be expended on the improvements.

ATTEND CONVENTION

Walter T. Steilburg and B. J. S. Cahill, architects, were among the speakers at the annual convention of the Seismological Society of America held in Pasadena during the current month. Mr. Cahill gave an interesting description of his butterfly world map.

ST. HELENA SCHOOL

Wolf & Higgins, 19 North Second Street, San Jose, have completed plans for a new school building at St. Helena, to cost $85,000. There will be eight class rooms, kindergarten, normal training department and auditorium to seat five hundred

HILLSBOROUGH RESIDENCE

Plans have been completed in the office of Willis Polk & Company, San Francisco, for a $40,000 residence in Hillsborough for Lloyd G. Simpson.

SOCIETY and CLUB MEETINGS

NORTHERN CALIFORNIA CHAPTER

The regular monthly meeting of the Northern California Chapter, the American Institute of Architects, was held at the Clift Hotel, San Francisco, on the evening of April 28th. President Henry H. Gutterson presided.

A letter was read from the organization group of the proposed San Francisco Federation of Arts, with request to appoint two delegates authorized to act in behalf of the Chapter. It was moved, seconded and unanimously carried, that the delegates be appointed and sanctioned to participate in the meeting.

As announced in the program of the year, the subject for the meeting was "Putting Architecture on a Business Basis."

Mr. Gutterson called attention to matters closely related to the subject and stated that these would be dwelt upon in a series of informal talks. Mentioning the importance of including in the discussion a field which is vital in establishing a new era in the building industry and its relationship to the profession, he called upon Mr. Allen to speak on "The Building Congress."

Mr. Allen outlined the value of a Building Congress and expressed his appreciation of the generous response which had been received in its promotion. He told of plans being effected and that on the following evening it was probable that the Building Congress of Northern California would be organized. By this means there will be established a conference for stabilizing and improving property values, which would symbolize a new era in the progress of the profession.

Mr. Norberg read a report outlining further detail of the proposed organization for central coordination of the building industry.

Mr. Gutterson next stated that the disbursement of public information would provide means for instilling a better understanding of the value to be attached to good building and the results to be expected from an architect's services. Mr. Garren was called upon to explain the step being undertaken with the sanction of the board of directors, to place such information before the public.

Mr. Garren told of the present plan to have issued in the Call-Bulletin, a weekly section devoted to the value of architect's services and to show and convince the consumer by articles and illustrations of the merit of good building. Particular reference is to be made to home building as being the phase in which the general public is primarily interested.

Mr. Allen moved that the meeting place itself on record as approving the plan of the Call-Bulletin to publish a weekly page devoted to Architecture and Building, as outlined by Mr. Garren and that the Chapter confirm the action of the Board of Directors in support of this movement.

With an amendment by Mr. Kelham, that the entire illustration and advertising matter shall be under the control of an editor who is approved by the Chapter, the motion was unanimously carried.

Mr. Gutterson announced that Mr. Meyer had expected to render an account of the convention at San Antonio, but that due to his absence, his remarks would be postponed until the May meeting. Mr. Narbett who went as delegate was present and gave an interesting version of his impressions of the convention and particularly stressed points appropriate to the subject of the evening.

Mr. Gutterson next spoke of the effort of the Industrial Association to maintain better business standards. George W. Kelham stressed the point that the maintenance of wage standards would greatly offset the effects of the general depression and stimulate a return to better business conditions. The effort of the Association to maintain its established wage scale, required the united support of the architects. To date, this has not been evidenced. The challenge was offered to the body of achitects, that lack of response to public interest indicates that they are not qualified to assume leadership and as a group do not measure up to their possibilities. In support of this opinion, he mentioned that the average architect in his years of study and apprenticeship has been so possessed with the mania to absorb design and become enabled to draw nicely, that he has overlooked or had no opportunity to become acquainted with general business fundamentals.

Summary of Contracts Awarded in The Eleven Western States For The First Four Months of 1930-1931

Compiled by THE ARCHITECT AND ENGINEER, INC.

	1931	1930
Arizona	$ 2,133,885	$ 1,844,188
California	60,901,256	68,552,603
Colorado	4,066,823	3,105,555
Idaho	314,759	313,559
Montana	1,210,962	1,011,329
Nevada	642,627	293,375
New Mexico	1,149,089	706,659
Oregon	4,198,111	4,918,775
Utah	993,680	1,368,974
Washington	8,737,736	18,055,057
Wyoming	153,880	233,135
	$84,502,808	$100,403,209
*El Paso, Texas	645,699	1,382,662
	$85,148,507	$101,785,871
	15.2% of Nation's total of $560,240,398	15.6% of Nation's total of $651,379,180

* El Paso is geographically situated so as to be a part of the Pacific Empire and is therefore recognized as a California Market.

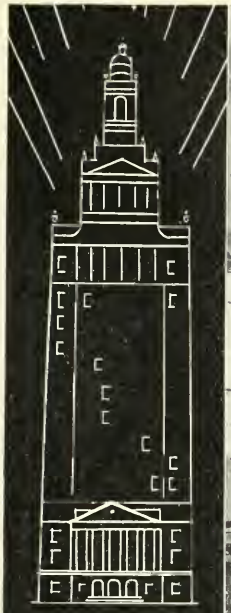
NOTE—This area shows a decline of 16% from 1930 figures as against the nation's decline of 14%, but a careful survey of construction figures for the thirty-seven Eastern States shows practically all major building concentrated in New York and Illinois, while here in this Western territory construction shows a healthy distribution throughout the entire area. California has consistently maintained its position among the first three states for thirty-one consecutive months.

Pacific Coast Building Construction Market

Market	1928	1929	1930	%
Principal Trading Centers *(35 cities over 25,000)*	$421,060,358	$461,921,000	$266,374,868	72.4
Secondary Trading Centers *(65 cities over 10,000)*	99,449,339	109,098,000	62,914,506	17.1
Trading Center Market	$520,509,697	$571,010,000	$329,289,374	89.5
Rural Market	61,065,384	$ 66,990,000	38,631,714	10.5
Pacific Coast Total	$581,575,081	$638,000,000	$367,921,088	100.

Building Materials Sold

Non-Residential Construction	$140,450,383	$154,077,000	$ 89,910,716
Residential Construction	103,811,151	113,883,000	66,455,746
Total	$244,261,534	$267,960,000	$156,366,462



American Insurance Company Building, Newark, New Jersey. *Architects:* John H. & Wilson C. Ely. General Contractor: Starrett Bros. & Eken, Inc. Sealex Floors installed by Newark Parquet Flooring Company.

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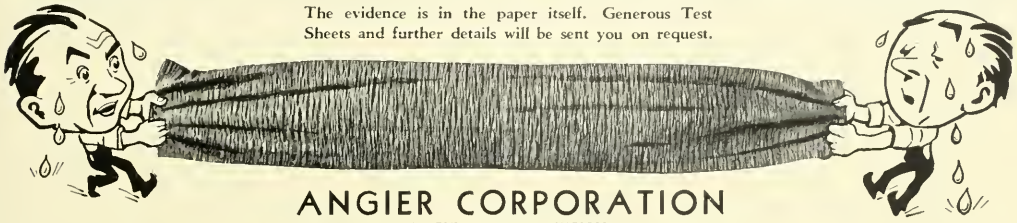

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Mr. Evers told of the obvious lack of business ability as evidenced by many of the applicants who appear before the State Board of Architectural Examiners, and of the established standards of the Board which compels adequate training as a qualification for the granting of a license to practice architecture.

Following these talks, the meeting was opened to general discussion, and various members, including Messrs. Ashley, Roeth, Hildebrand, Mooser, Jorgensen, Schalk and Collins, added their valued opinions in keeping with the general subject of the evening.—J. H. M.

SOUTHERN CALIFORNIA CHAPTER

Officials of the Southern California Edison Company were guests of the Southern California Chapter, American Institute of Architects, at the May meeting of the Chapter held at the California Club.

President H. C. Chambers, presiding at the meeting, introduced Arthur C. Weatherhead, dean of the College of Architecture, University of Southern California, who spoke briefly on progress being made by architectural colleges in the United States.

M. L. King, president of the Central New York Chapter of the Institute, attended the meeting. He spoke of the many changes that have taken place in the community since his last visit to Los Angeles, nine years ago.

D. C. Allison presented the Southern California Edison Company officials who were present.

Mr. Doolittle gave a description of the recently completed Edison Building at Fifth Street and Grand Avenue, touching on the structural design, the mechanical and electrical equipment, and other important features.

Following the meeting the members adjourned to the Edison Building, where they were escorted around the structure.

ARCHITECTURAL CLUB OUTING

The fifth annual picnic of the San Francisco Architectural Club was held May 24th at Schenkel's Grove in San Mateo County.

A baseball game was staged for a trophy donated by the W. S. Dickey Clay Manufacturing Company. A cup, awarded by the same company last year, was won permanently by the Atelier.

Golf and basketball tournaments, dancing, and various athletic events were other features contributing to a day of enjoyment.

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OREGON STATE CHAPTER

At the May 19th meeting held in the University Club, Portland, the following were present: Doty, Tucker, Morin, Bean, Aandahl, Knighton, Linde, Whitney, Jacobberger, Jones, Logan, Herzog, Crowell. Guests: J. E. Mackie and C. J. Hogue.

The meeting called to order by President Doty. Mr. Hogue noting the undignified and primitive means of calling for order suggested a gavel was much needed and introduced Mr. Mackie, local representative of the National Lumber Manufacturers' Association, who gave an historical sketch of the material from which the gavel was made, namely, truss timbers built into the White House roof in 1814, after the burning by the British. President Doty accepted the valued gift in behalf of the Oregon Chapter.

Mr. Morin announced for the exhibition committee that the exhibition would be held on the fourth floor of Olds, Wortman & Kings' store from June 1st to 6th. Letters from President Borhek of Washington State Chapter were read, accepting our proposal of holding a joint meeting on June 20th. The entertainment committee was authorized to arrange all necessary details for the trip.—W. H. C.

WASHINGTON STATE CHAPTER

In compliance with the notice for the April meeting this monthly gathering of the Washington State Chapter, was "exceptional" in displaying several notable departures from precedent. The meeting place was different. This time it was the New Washington Hotel at Seattle, which offered in its "Gold Room" a secluded spot with an environment befitting the events.

It was with some difficulty that the members eventually settled down to the well served and bountiful dinner provided by the hotel. At the conclusion of the repast the president went through the formality of calling the meeting to order and the 359th regular business meeting finally found itself under way. The secretary read the minutes of the previous meeting and the treasurer followed with the usual monthly report on finances. Both were approved.

Before calling on others for committee reports, President Borhek told of the disposition of the proposed Architects' License Law by the State Legislature; how it was lost in committee and its sister bill licensing the engineers, passed by the Legislature, only to be vetoed by the Governor. These remarks occasioned a vote of commendation to Chairman Vogel, his legislative committee and to Chas. W. Saunders, former Chapter member and now a State legislator, for their untiring efforts to get the proposed Architects' License Law on the statute books.

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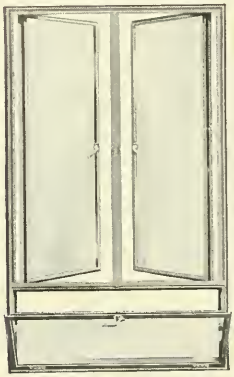

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Committee reports were further postponed by a consideration of publicity; a motion being presented that hereafter any publicity bearing the name of the Chapter must have the approval of the Executive Board. On being ruled out of order by the president a vote to suspend the rules removed this technical obstacle and the motion was seconded and carried.

The report of the Institute affairs committee was read by Mr. Albertson in the absence of the committee chairman, Mr. Ford. This report, after some discussion and amendment, was adopted.

The report of the public information and bulletin committee was next presented and adopted with the exception of a paragraph referring to Institute publicity. To provide for this a substitute motion was adopted recommending to the Institute that an expert analyst and publicity man be employed to suggest the best type of publicity for the Institute. After approval of this substitute motion the report was adopted. Some of the points brought out in the report are as follows:

The Bulletin is the Chapter's house organ and should be continued as such, in its present form and should not at any time go into the hands of an outside magazine-exploiting-business.

Committee does not favor paid ads in newspapers.

Committee proposes to co-operate with any publisher, such as Lowman & Hanford, if they publish a book on Northwest Architecture or contact them with some other Chapter committee to act as their advisors in the choice of material.

We propose to obtain the data as to cost of series of bulletins similar to the Illinois Society series, either from them or produced by ourselves to be used in publicising all businesses which might have to answer the question as to the "Functions of an Architect and his Value."

We propose to organize a public speaking group of architects, offering our speakers to service clubs, schools and other organizations of the city.

Our committee proposes to make more useful, publicity now in the form of an exhibit at the Builders Permanent Exhibit at Seattle, the idea being that one member of our committee and one member of the exhibition committee co-operate in making this a very useful form of publicity.

Mr. Loveless, in reporting for the honor award committee, favored an extension of time for the competition proposed by the Seattle Real Estate Association. This report was adopted.

A more fully developed schedule of professional charges was presented by Mr. Albertson as the work of an independent committee. After some discussion it was voted that action on this proposed schedule be deferred until the next regular

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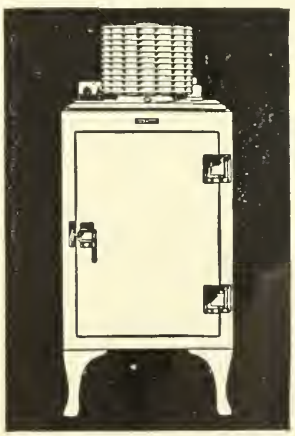

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meeting,—all members being sent copies of this proposed schedule for consideration before its final disposition.

The meeting concluded with an interesting talk by John T. Jacobsen, a member of the Chapter, recently returned from abroad, who spoke on "Contemporary Architecture in Europe."—C.H.A.

STATE BOARD MEETING

The regular annual meeting of the California State Board of Architectural Examiners as a whole was held in San Francisco May 12th and 13th, for the purpose of granting certificates to those architects who have qualified during the past year.

State Certificates were issued granting the title of Architect to the following:

Southern District

Harry B. Aarens, 1558 N. Vine St., Los Angeles, Cal.; Erwood P. Eiden, 1814 Arvin Drive, Glendale, Calif.; Samuel Wood Hamill, 1612 Fern Street, San Diego, Calif.; Norris M. Knaus, 344 Vine St., Glendale, Calif.; H. A. Kreinkamp, San Francisco, Calif.; Alexander N. Knox, 804 Architects Bldg., Los Angeles, Calif.; Gilbert T. Lord, 1236 So. Van Ness Ave., Los Angeles, Calif.; Douglas H. McLellan, Los Angeles, Calif.; Edmund B. Mason, 1459 W. 47th St., Los Angeles, Calif.; Edith M. Northman, 5369 Wilshire Blvd., Los Angeles, Calif.; Rudolph A. Polley, 2509 Orella St., Santa Barbara, Calif.; Homer D. Rice, 741 So. Alvarado St., Los Angeles, Calif.; Arthur I. Rouda, 524 So. Spring St., Los Angeles, Calif.; Erle Farrington Webster, 607 Architects Bldg., Los Angeles, Calif.; Harold C. Wildman, Farmers & Merchants Bank Bldg., Long Beach, Calif.; Wilfred Burritt Verity, 453 Bowling Green Way, Los Angeles, Calif.

Northern District

Sigvald L. Berg, 2312 Durant Ave., Berkeley, Calif.; William Peyton Day, Financial Center Bldg., San Francisco, Calif.; Kenneth E. Fratis, 1732 Webster St., Oakland, Calif.; Chas. C. Lundgren, 872 Clayton St., San Francisco, Calif.; Doyt Early, 1130 Marian St., Sacramento, Calif.; J. Kendall Masten, 6809 Neptune Place, La Jolla, Calif.; George A. Schastey, Monadnock Bldg., San Francisco, Calif.; James F. McGuinness, 488 Pine St., San Francisco, Calif.; Vladimir O. Oglou, 1710 Franklin St., Oakland, Calif.; William Henry Rowe, 1535 Vancouver Ave., Burlingame, Calif.; Francis E. Lloyd, 3311 Washington St., San Francisco, Calif.; Milton Latham, P. O. Box 1257, Carmel, Calif.; Dole Ford Thomson, 4th & Camino Real, Carmel, Calif.; Otto G. Hintermann, 74 New Montgomery St., San Francisco, Calif.; Romualdo Jose Blas, 251 Kearny St., San Francisco, Calif.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $28 to $33 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $9.00 plus cartage.
Face, f.o.b. cars, $40.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 75.00 per M
4x12x12 in.	85.00 per M
6x12x12 in.	124.00 per M
8x12x12 in.	188.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$87.00
6x12x5½	60.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Rubber Tile—55c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.40 per ton
No. 4 rock, at bunkers	1.40 per ton
Eliott pea gravel, at bnkrs.	1.40 per ton
Washed gravel, at bnkrs.	1.40 per ton
Eliott top gravel, at bnkrs.	1.40 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.00 per ton
Delivered bank sand	1.00 cu. yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.44 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.64 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 50 cents; clay or shale, $1.00 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot. Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring	45.00 per M
1 x 4 No. 2 flooring	42.00 per M
1 x 4 No. 3 flooring	37.00 per M
1 x 6 No. 2 and better flooring	40.00 per M
1¼x4 and 6 No. 2 flooring	50.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	30.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	4.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.35 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$130.00 M ft.		
1 1-16x2¼" T & G Maple	140.00 M ft.		
⅞x3½ sq. edge Maple	127.00 M ft.		
	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $3.00 base.
Belgian nails, $2.75 base.

Millwork—
O. P. $80.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $6.50 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.50 each.
Dining room cases, $6.00 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

NOTE — Above quotations are for 7/8 inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Verde Antique	3.00 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft.
Tennessee	1.70 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 95c per gal. in cans and 80c per gal. in drums.
Raw Linseed Oil—$.87 gal. in bbls.
Boiled Linseed Oil—$.97 gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.

1 ton lots, 100 lbs. net weight 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots 12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb lots 12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 13¼c
500 lb. and less than 1 ton lots 13½c
Less than 500 lb. lots 14c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $7.50 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.

Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $19.00 to $35.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10.50 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$90 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $86.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, chaonel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's bodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

The following were elected officers for the Southern District Board: John C. Austin, President and A. M. Edelman, Secretary; Northern District, Albert J. Evers, President; Henry H. Gutterson, Secretary.

John C. Austin was elected president of the State Board of Architectural Examiners as a whole, and Henry H. Gutterson was elected secretary.

CANNOT COLLECT FOR PLANS

Owing to the fact that Prosper Bou, contractor of San Bruno, failed to comply with the state law regulating the practice of architecture in the State of California, he will not be permitted to collect for services in connection with plans which he prepared for the San Bruno city hall extension.

The State Board of Architectural Examiners, through its representative, A. L. Bolton, filed a protest with City Clerk Amil A. Bohm, against the payment of Bou from city funds and at the same time called the attention of City Attorney Rudolph Rapsey to the fact that the state law would not permit of payment being made to Bou.

ARCHITECTS DINE

Spokane architects held an enjoyable dinner at the Davenport Hotel May 1. The meeting was under the auspices of the American Institute of Architects. Stanley A. Smith, president, delivered an address. A group of students from the Architectural Department, Washington State College, had dinner with the architects.

MARINE VIEW HOME

Harold W. Doty, architect, of Portland, Oregon, has been commissioned to design a home for Arthur James Smith on a picturesque site overlooking the harbor at Vancouver, B. C. Mr. Doty is president of the Oregon State Chapter, A. I. A., and regular editorial contributor to THE ARCHITECT AND ENGINEER.

WINS SCHOLARSHIP

The second annual scholarship of $200 volunteered by the State Association of California Architects for the outstanding student in the Department of Architecture at the University of California, has been awarded to F. Glenn Bramble, graduate student registered from Santa Monica.

SAN MATEO PARK HOME

Benjamin G. McDougall, architect, 353 Sacramento Street, San Francisco, has completed plans for a two story and basement frame and stucco dwelling in San Mateo Park, San Mateo.

Entrance Vestibule, Shell Oil Building, San Francisco
Walls of French Botreville Marble
GEO. W. KELHAM, *Architect*
P. J. WALKER COMPANY, *Builders*

▼ ▼ ▼

All Interior Marble
In the Shell Building
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Also all Marble Work in the Christian Science Sanatorium, San Francisco.
HENRY H. GUTTERSON, *Architect.*

▼ ▼ ▼

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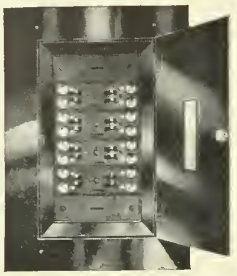

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Cleveland, Ohio	St. Louis, Mo.
Dallas, Texas	San Francisco, Calif.
Denver, Colo.	Seattle, Wash.
Detroit, Mich.	Tulsa, Okla.
Kansas City, Mo.	Toronto, Can.
Los Angeles, Calif.	Vancouver, Can.
Memphis, Tenn.	Winnipeg, Man., Can.
Minneapolis, Minn.	Hamilton, Ont.
	Montreal, Can.

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EMERSON KNIGHT HONORED

Emerson Knight landscape architect, who has conducted his own office in San Francisco since September, 1918, has been elected a member of the American Society of Landscape Architects. At a recent meeting of the Pacific Coast Chapter of this Society he was authorized to establish San Francisco headquarters for the Society at his office. Thus the Society can qualify for representation in the San Francisco Federation of Arts. The object of the latter is to foster and protect the art interests of the community and to aid with recommendations for highly qualified memberships in the Art Commission provided for in San Francisco's new city charter, to take effect next January.

Mr. Knight has not only solved problems of the garden, the private estate and the subdivision, but has designed, and supervised the construction and planting of a number of outdoor theaters in California, besides writing several thorough articles on the subject which have appeared in this journal. For seven years he has been identified with park, road and trail development in behalf of the Save-the-Redwoods League. He has made field investigations and rendered reports on State Parks and Monuments to the California State Park Commission. In 1929 he served the Commission Nacional de Caminos with a report embracing broad practical and aesthetic problems with respect to the National Highways of Mexico. He was then awarded a diploma as Honorary member in the Sociedad Forestal Mexicana, C. L.

PLANT IMPROVEMENTS COMPLETED

The United Materials and Richmond Brick Company, Ltd., have resumed operations of their Richmond plant which has undergone extensive overhauling and replacement of old machinery with modern equipment. The company is now in a position to fill orders on short notice for face brick of varied texture and color. Some 430,000 buff brick have lately been manufactured for the new Ford assembly plant, Richmond, and delivery is now being made of a Roman brick (to match the old Mills building) for the new Mills tower annex. Richmond brick has been specified by Frederick H. Meyer, architect, on the addition to the Girls High School, San Francisco. The new apartment house at California and Octavia Streets, being erected by Herman Hogrefeson & Son, will also be faced with Richmond pressed brick.

DIAMOND ELECTRIC FACTORY

Officials of the Diamond Electrical Manufacturing Company, Ltd., of Los Angeles, which is affiliated with the Square D Company, Detroit,

Michigan, recently opened its new branch factory at San Francisco.

The two story building is at 130 Potrero Avenue. Among the officials of the Diamond Division attending the opening were A. A. Schueler, formerly general sales manager of the Square D Company and sales manager of the Diamond Division; and Verne Brown, vice-president.

The new factory is equipped to manufacture dead front switchboards and other electrical safety equipment, such as is manufactured at the main plant of the Diamond Division in Los Angeles and at the Square D plants at Houston, Detroit and Milwaukee.

J. J. Mitchell, former branch sales manager of the Square D Cleveland office, is sales manager of the San Francisco office.

A REAL SERVICE

Editor The Architect and Engineer,
1662 Russ Building,
San Francisco.

We wish to take the opportunity to tell you that your worthy publication has performed a real service to the entire construction industry in printing the talk made by George W. Kelham, architect, before the Convention of the Associated General Contractors, San Francisco. We were so impressed with the importance of Mr. Kelham's statements and his frank and courageous analysis of the relations between architects and contractors that we have written a letter to him.

His talk as reprinted in the May issue of THE ARCHITECT AND ENGINEER should come to the attention of all those engaged in the construction industry. It is regrettable to think that many may not have the opportunity to read his talk, "Relations of Architects and Contractors."

We need very much the wonderful qualities as exemplified in Mr. Kelham's work in our community and State. His great influence upon the industry, and his achievements, will do much to improve conditions.

Very truly yours,
A. QUANDT & SONS,
By T. W. Quandt.

Mr. Quandt's letter to Mr. Kelham follows:
Dear Mr. Kelham:

We simply can not let the opportunity pass without expressing our hearty approval of your courageous, truthful, and timely talk given before the Associated General Contractors, San Francisco, and as printed in the May number of THE ARCHITECT AND ENGINEER.

Examine any slab of concrete cured under

SISALKRAFT

"Did you ever see better concrete?" is the natural exclamation of engineers, contractors and architects when they inspect a Sisalkraft cured job. The damp, clean surface under the paper shows quality to any experienced eye. The Coca Cola Bottling Company's floor in Los Angeles shown above, was twelve days old when the picture was made.

Tests and actual service fully bear out this first impression. "Strength practically equal to immersion" is the conclusion of one set of tests on concrete cured with Sisalkraft. Sand blast wearing tests on air cured and Sisalkraft cured surfaces quickly demonstrate the vast difference in this quality. And floors cured with Sisalkraft when this automatic system was first being developed, are proving their permanent quality in actual service.

Sisalkraft protection and curing is not only theoretically sound. It is practical, economical and extensively proven in service by leading builders from coast to coast. Examine a typical job for yourself. We will be glad to put you in touch with a user near you.

THE SISALKRAFT CO.
205 W. Wacker Drive (Canal Station), Chicago, Ill.
55 New Montgomery Street, San Francisco, Calif.

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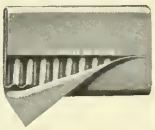
JOINT

Patented September 1, 1925



Insures Facades Against Cracked or Broken Facing Blocks

RAND TOWER, MINNEAPOLIS
Holabird & Root, Architects

THE Cowing Joint is installed in the columns and weight carrying mullions at a mortar course. Its purpose is to relieve pressure thrown on the facing material by compression of steel, temperature changes, vibration and wind stresses. Experience has proved that these severe stresses, unless relieved, will crush and break the stone, terra cotta or marble.

Where the Cowing Joint is installed at each story height the building is completely insured against cracks and spalls, the mortar joints are protected from crushing and the maintenance cost of tuck-pointing is eliminated. The facade is in no manner weakened because the Cowing Joint carries the normal weight of the facing material and compresses only enough to relieve the stress.

See "SWEETS" Catalogue

Cowing Pressure Relieving Joint Co.
226½ WEST SUPERIOR STREET CHICAGO, ILLINOIS

Your statements are a "Declaration of Independence" for the building industry. In our own crafts, how well we know the truth of the statements of fact you make, and particularly the following, in part:—"You will admit that there are contractors figuring on jobs who have no more business to call themselves general contractors" (and certainly this applies to all contractors) "than I have to run the Bank of England and you will admit that the waste of that thing is colossal."

It is time that we tell the truth about each other when the occasion demands. Specifications should be written that can be translated into reality, that are practicable and meet the requirements; and contractors should have the courage to tell architects when this can not be done if their experience so tells them. Also architects should know that their specifications will be carried out as written, or even performed better, by contractors who have quoted a price sufficient to do the job, and WHO HAVE AN ESTABLISHED REPUTATION FOR DOING THOSE THINGS, and not those who can fix the job to suit the price and who say they can do "just as good a job as the other fellow" *but who never do it!* Yes, architects should have the courage to tell the owners the truth.

It is time that comparisons are made not only in the price differences, but also in the comparative facilities and reputation of the contractor who is to perform the work in hand. If architects and owners took the time and trouble to inspect the plants of the bidders, as well as their bids, and some of their previous jobs, they would receive a great deal of enlightenment and be well rewarded for their efforts. Competition is the life of trade, maybe, but only when it is *really comparative* and all the factors weighed. This is done when purchasing other items of importance, why is it not done when purchasing the contractor's service?

We feel we may say to you that we share with you most sympathetically your thoughts in this vital matter. Perhaps some people do not like us, either, because we like to tell the truth and LIVE IT. May we have some more courageous architects, and we know there are some, who can tell us frankly the reasons for so much waste and faulty work in the great construction industry. Every one in the building industry of America should read and think seriously about the things you have said in "Relations of Architects and Contractors."

VAUGHN-G. E. WITT COMPANY BUSY

The Vaughn-G. E. Witt Company, with main office and factory in Emeryville, is now manufacturing a gas burner particularly adapted for industrial purposes. The company finds a ready market for its new burner which has many advantages over other fuel burners, such as reduced labor cost, uniform heat, elimination of smoke, increased boiler efficiency, no stoker upkeep and elimination of fuel when boiler is shut down. Some of the more recent installations are as follows:

Oakland—Altenheim Home, Virginia Apartments, Demoto Brothers Nursery, Pioneer Laundry, Guarantee Laundry, De Luxe French Laundry, Merritt Laundry, Sunset Laundry, Parisian French Laundry, Dari-gold Milk Company.

Berkeley—Handwork Laundry, Berkeley French Laundry, University Avenue Laundry.

Salinas—Domestic Laundry, Salinas Steam Laundry.

Sacramento—Palace Laundry, Capitol Laundry, Homestyle Laundry.

Vallejo—Louisiana Steam Laundry, Vallejo French Laundry.

San Francisco—Toulouse Laundry, Lafayette French Laundry.

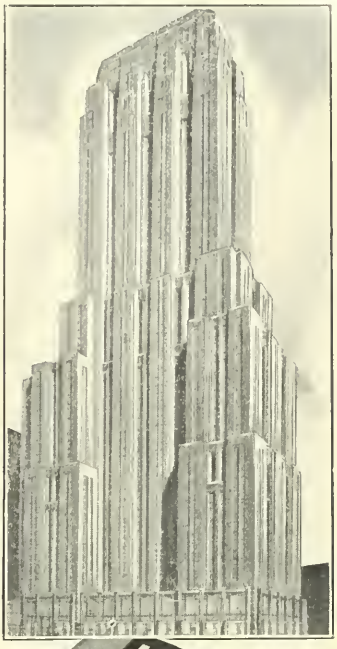
OIL BURNER MEN ORGANIZE

Plans for the formation of more than 2000 oil burner dealers into one of the largest trade associations in the country are announced by Lionel L. Jacobs, vice president of the American Oil Burner Association, and chairman of the board of governors of the dealer division. The new organization will be a division of the American Oil Burner Association and will operate under its offices and directors but it will be managed by its own executive board.

Oliver P. Harris, who has had wide experience in sales promotion work and dealer activities, has been appointed managing secretary. He will carry out the organization plan as adopted at the annual convention of the American Oil Burner Association in Philadelphia last month. The initial membership roll will be composed of the 2000 dealers handling products of manufacturer members of the A. O. B. A. The potential membership list is 7500 and it is expected that other dealers will become members in the near future.

One of the first activities of the new association will be the organization of local oil burner associations and the direction of co-operative newspaper advertising campaigns through these local associations in the different localities. Another major function will be the fight on obsolete ordinances carried on in conjunction with the

HAZARD BUILDING WIRES HAVE TEN SCHOOLGIRL COMPLEXIONS



The new Palmolive Building in Chicago. A monument to every contractor who helped to build it. It was wired with Hazard 30% Building Wire by Hatfield Electric Company; Holabird and Root, Architects; Lundoff Bicknell Company, General Contractors.

THE intricate wiring of a building is made easier to follow if the separate wires are identified by colors. Hazard Electrical Building Wire is supplied in ten, standard, easily-distinguished colors for this purpose.

All Hazard wire is uniformly small in diameter with tightly woven braids and a smooth, slick finish that makes handling easier. Copper conductors are full-size and are accurately centered in real, elastic, long-lived rubber insulation.

Send for a free copy of "Installations of Hazard Electrical Building Wire." It shows the ten colors available.

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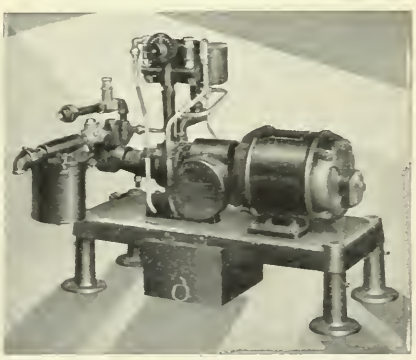

An efficient, economical burner for hotels, office and industrial buildings, hospitals, schools, homes, bake ovens and kitchen ranges.

CALIFORNIA HYDRO-OIL BURNER, Inc.
Better Oil Burners
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manufacturer members. Dealers in each city where out-of-date or unjust restrictions exist will be organized for a fight in that locality.

Other activities of the division include advice and assistance to dealers in meeting unfair advertising and unfair competition; market research work and the distribution of engineering data pertaining to oil burner installations.

Harris, managing secretary, was formerly director of sales for the Petroleum Heat & Power Company, of New York.

LANDSCAPE ARCHITECTS ACTIVE

At a special meeting of members of the Pacific Coast Chapter of the American Society of Landscape Architects held on May 21, it was voted that:

WHEREAS the American Institute of Architects has called our attention to their belief that the Government should not set up extensive governmental bureaus to do creative work in the profession of the arts; and

WHEREAS we understand that the Federal Government is planning to greatly increase its architectural department to meet the emergency demand for public building activities now contemplated; and

WHEREAS increased growth of bureau activities in the Government of the Nation, of the States, and of Counties and Cities in dealing with professional matters of art, such as Architecture and Landscape Architecture, built up in time of emergency, are not easily reduced later and therefore may lead to wasteful expense and

WHEREAS there now exist professional firms of ability in Architecture and Landscape Architecture in all important cities of the Country, capable of producing variety, efficiency and beauty in such work; and

WHEREAS such firms can be retained by any governing body for any specific piece of work and the expense can thereby be limited to that particular work, without the need for placing them on permanent employment; and

WHEREAS it is believed that the setting up of such bureaus with their function as creative agencies is in contradiction to our American principle that the Government should not intrude itself into the realm of private business or professional activity where such private business or professional activity can be used to serve the public need; and

WHEREAS it is believed that the employment of various firms will lead to a higher expression of the arts, than can be produced by extensive bureaus; and

WHEREAS it is the opinion of those present that the governing body can best serve the people by acting as a judiciary body on such matters involving skill in art.

NOW THEREFORE, BE IT RESOLVED that we believe the governing bodies should discourage the further development of working bureaus in such matters, and should encourage the employment of professional firms of skill and ability to develop plans for architectural and landscape architectural work and

BE IT RESOLVED that we send copies of these Resolutions to

President of the United States
Secretary of the Treasury of the United States
Supervising Architect of the Treasury
Chairman National Commission of Fine Arts
Director of National Parks
Governor of the State of California.

TRADE NOTES

The American Asphalt Paint Company has issued a brochure entitled, "Water, Water Everywhere," which is a treatise on water, with colored plates done by a new process, the whole making a beautifully ilustrated brochure.

The information contained is concisely given and is trust-worthy. This paper should be put in school libraries and could be used to advantage by students in all grade and high schools. Architects and engineers will find here some choice bits of data pertaining to water and its action on various substances.

The American Asphalt Paint Company is to be complimented on the beauty of their brochure and it will without doubt redund to their credit.

TWO BOOKLETS

The Detroit Steel Products Company has just issued two booklets illustrative of their two new products:

1. Fenestra Casements with Built-in Windguards.

2. Steel Curbing—the New Landscaping Material.

These products appear to have been prepared to fill a long felt need for "that something better" in window casement design, and the steel curbing to fulfill an important place in garden care, arrangement and preservation.

Copies of these booklets may be had upon request to The Detroit Steel Products Company, 2250 East Grand Boulevard, Detroit, Michigan.

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STEEL ROLLING DOORS

Chain, crank or motor operated types for industrial service.

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Offices in Principal Pacific Coast Cities
Largest Pacific Coast Manufacturers of Steel Rolling Doors

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A determination to keep our product and service up to the highest possible standard.

Able representation on the Pacific Coast.

PRICE BUILDING SPECIALTIES,
San Francisco, California

CONTINENTAL BUILDING SPECIALTIES, Inc.,
Los Angeles, California

D. E. FRYER & COMPANY, Seattle, Washington
C. W. BOOST, Portland, Oregon

CUTLER MAIL CHUTE CO.
GENERAL OFFICES AND FACTORY
ROCHESTER, N.Y.

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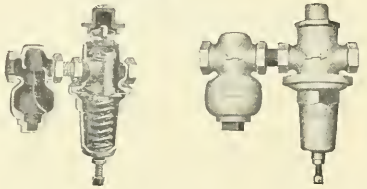

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The H 9000 protects the entire plumbing installation. It prevents water waste by controlling the flow, eliminates water hammer by reducing this pressure, stops the annoyance of faucet splashing, while assuring full volume at fixtures, prolongs the life of the system, and minimizes repairs.

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WM. WALLACE MEIN GARDEN
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SUtter 2720

surface is now being marketed by the Macoustic Engineering Company, Inc., of Cleveland, Ohio.

In adding a hard surface to its Standard Macoustic, the manufacturers have increased the sound absorption efficiency. Official tests rate the new plaster—trade named Macoustic 47-W—at a sound absorption coefficient of 47 percent at 512 cycles.

Among the features claimed for Macousitc 47-W in announcements to the architects are: (1) washable, wearable surface, (2) high acoustical efficiency, (3) lowest cost per absorption unit.

Macoustic 47-W is a development of America's first exclusive specialist in acoustical treatments, and represents the experience of ten years with plastic type acoustical materials.

For use in those interiors where the unique characteristics of Macoustic 47-W are not essential, the Standard Macoustic, produced and marketed by the Company and installed in outstanding buildings throughout the United States of America and Canada during the past ten years, will still be available.

ALLIED ARTS EXHIBITION

Plans for a national exhibition of the allied arts of design in Washington in 1932 are announced

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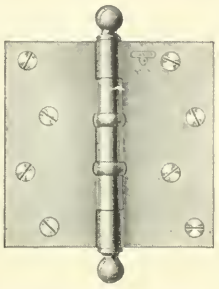


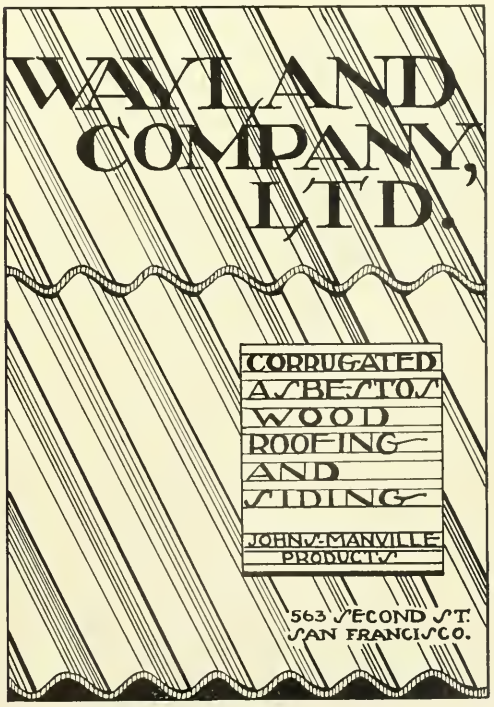
in the annual report of the Committee on Allied Arts of the American Institute of Architects.

The National Sculpture Society and the National Society of Mural Painters are cooperating with the Institute in arranging the event, which, the report asserted, "will constitute the most important effort that has ever been made to bring to the national consciousness the importance of allied arts in our architectural development."

The national conventions of the three organizations, and possibly that of the American Society of Landscape Architects, will be held in Washington during the period of the exhibition. The commission in charge of the bi-centennial of the birth of Washington is aiding a joint committee to develop a display of the nation's achievements in the allied arts which, it is expected, will continue throughout the year.

Despite its majestic forms and masses, modern American architecture is suffering from crude attempts at ornament, according to the Committee's report.

"If our effort," the report declared, "to make our architecture simpler, more straightforward, more truly expressive of the purposes and functions for which it is created, is to prove an enduring benefit to the art of architecture, the simp-



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Model No. 7A

The HAWS Model No. 7A reaches the Acme of Sanitary Drinking Fountain construction — it assures the user of an absolute safe drink of water at all times!
The Bubbler Head is so protected by the china cowl that the user's lips cannot contact the water orifice and no foreign matter from the mouth may fall back upon it.
The Water Orifice is raised above the rim of the receptor, preventing contamination of the water supply even if the outlet should clog and the water overflow the bowl.
The Stream of Water passes directly from the source of supply to the drinker without first passing through hollowed chambers wherein unsanitary matter may be collected.
Furnished in white, black and nine beautiful colors—embodying beauty with utility.

Surely an ideal fountain for that next specification!

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The specification for all drinking fountain occasions

lification of the masses of our design must be accompanied by the development of textures, patterns, and detailed forms which exemplify some comprehensive philosophy of aesthetics and design, and not merely a freakish tendency to break with tradition.

"Progress during the past year in the arts of design was said to be slow, owing to financial conditions, and marked by the experimental use of new materials, many of which have not yet been fully absorbed into our architecture."

"There has been but a small demand for the kind of work which involves the mastery of traditional craftsmanship," the report continued. "The materials and decorative motives now being so freely used in the contemporary forms of simplified architecture are, for the most part, either crude imitations of undeveloped forms originating in Europe or capricious inventions which have not as yet been brought into any harmonious relation to the architecture they are intended to adorn.

"Progress in the design of ornament has in the past been an evolutionary process under which simplifications or elaborations of naturalistic, symbolic, or abstract forms were gradually developed by the minds and hands of men trained in certain fundamental principles of design.

"Notwithstanding the simplicity, dignity, and grandeur of many of the architectural masses which are developing at the present time from a simplified interpretation of the needs and character of our structures, our architecture in general is suffering from the abandonment of traditional forms and motives in our ornament in advance of the development of anything that can adequately and expressively take the place of these forms.

"The training of the draftsman and the architect does not enable him single-handed to solve the problems of design and craftsmanship which are involved in this mighty undertaking. This lack can only be supplied by adequate collaborative effort between the architect, the designer of specialized forms of ornament, and the manufacturer. There is at present but little indication, either in our schools or our offices, that this condition has been felt and is being acted upon.

"In this connection it may be well to cite Lee Lawrie's sculptural enrichments of the Nebraska State Capitol. The individuality, distinction and refinement of these examples of sculpture, which, in spite of severe simplifications of naturalistic form, still carry with them unmistakable conviction as to the impression sought after and the qualities to be emphasized, furnish the best possible illustration of the fact that not less,—but more—knowledge, design, and craftsmanship are

required in this simplified form of sculptural and architectural expression than in those forms which adhere more closely to naturalism.

"All over the country today we find in recently erected buildings, crude attempts to initiate this kind of sculptural enrichment which are completely lacking in the knowledge, imagination and taste which characterized Mr. Lawrie's use of this sculptural idiom.

"There is at the present time but little indication of real originality of thought in the design of architectural ornament. The ornament not based on some traditional architectural style is, for the most part, copied from some contemporary European example."

ARCHITECTS NATIONALIZE*

We are met here today to consider a matter of vital importance to the future of the architectural profession, a question to remain unanswered longer will spell disaster. Our cognizance of the necessity of co-ordinating their interest brings us together.

When the State Association of California Architects sounded the call for this informal meeting little did it anticipate the endorsement of the American Institute of Architects nor the splendid cooperation which your presence here today indicates.

We of California, feel a very deep sense of gratitude for you men whose vital interest in professional progress has brought you here.

After years of apparent indifference to the principles of modern progress, the architectural profession has been awakened by coming into contact with a series of facts which fundamently affect its future. We can no longer look askant upon the laws governing successful businesses. We must become conscious of the necessity of tuning ourselves to modern conditions. We must analyze our position, study our fundamentals, our responsibilities, our possibilities and look things squarely in the face and if necessary take definite steps to organize ourselves. We must pursue a course of action which will enable us to raise the standard of our profession and place us in a position wherein we can be of greater public service. Our responsibility to Society runs very deep and we must measure up to it or pass out of existence as a professional body. As proof of our responsibility let us consider the statement of Chas. H. Cheney, who has made a very thorough survey of the building conditions in this country. His statistics indicate that out of the four billions spent last year in this country in building, three

*Address of L. G. Scherer, Secretary, State Association of California Architects, Southern Section, and President, Architects League of Hollywood, on The Necessity for Complete National Cooperation of the Architects, delivered at San Antonio, Texas, April 14, 1931.

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billions proved a liability rather than an asset because of poor planning, poor location, poor design, etc. This means that 75% of the money invested in the field of our profession has literally been squandered. It is unquestionably the greatest economic waste of our times. Upon further investigation he tells us that this tremendous waste is largely due to the fact that only 15% of the work was done under the direction of architects. This, gentlemen, is an appalling statement of facts. If the profession is in a position to save the public this enormous waste it becomes the architects' moral duty to do all that he can to prevent it. It is our obligation and unless we take definite steps along these lines we are direlect in our responsibility to our fellow men. This can be achieved only through co-operative endeavor.

That, to my mind, is the fine point of this convention; we are not here to merely consider the problems of the profession in itself, but foremost to prepare a way to build up ourselves to be of greater benefit and value to the public. Our first consideration is that of public service, and if we can program our activities to fulfill that function, we need have but little concern for the program of the profession. It will come of itself.

The various Associations which we represent here have become cognizant of the necessity of applying the principle of modern business to the problems of the profession. We of California, and many others have seen the wisdom of closely following the plans and applying the principles which have been so successful in the development of other great professional enterprises. By employing the same human agencies which have been so successful in other fields, we have in the short time of our existence accomplished considerable good, but as yet very little has been done, when we survey the great fields which still lie before us awaiting development. The present unsettled condition is not as bad as it seems because it is permeated with a spirit of new life and realization which I believe will bring great and concrete gains out of our apparent confusion. They are good signs indicative of an awakening which will result in a long-needed professional solidarity, the progressive merging of the interests and ambitions of every architect in the country, not merely a passive recognition of his aspirations, but an active co-ordination of them in a program dedicated to the common good.

Cooperation is the life blood of modern business. It is the first essential of progress in any endeavor. Men are fast learning that greater success can be achieved through cooperation and the larger and more democratic the association,

the greater are the possibilities of improvement. Men who cooperate in any enterprise that is worthwhile, such as this unquestionably is, come to understand each other. They realize that no man standing alone can achieve the degree of success he can if he co-operates with others. That no profession, unless it represents the majority of its members can be adequately representative of its common interests. Our profession will progress only in proportion as we all get together and through intelligent, concerted action, apply our accumulated knowledge and great vitality to the amelioration of our conditions.

Not so many weeks ago, the Executive Board of the Southern Section of the State Association of California Architects, in line with its program of keeping in direct touch with the architects of various parts of the state, visited a city at which a special meeting was called to discuss architectural problems. In this community of approximately 30,000 population, which by the way has a municipal art association, and probably one of the best known cities in the country for its excellent architecture, the majority of these architects, which are twelve in number, were not even known to each other. It became necessary for our Executive Board to act as hosts and introduce a number of these to each other. Incredible as it seems, it is a true story. If such a condition exists in a community which is so progressive in its architectural development, what can we expect in other communities? How under such conditions can the profession anticipate the furthering of its interest? Such a condition is certainly inconsistent with the principle of modern progress.

Upon the achievements and ideals of the American Institute of Architects it is pleasant and inspiring to dwell. It has done a great work in the 75 years of its existence. However, it seems that its energy has been mostly directed to the upholding of the ethics and dignity of the profession, giving to the problems of the average architect who needs education and development and to the broad extension of the field of architectural practice but passing concern. It becomes then the work of our State Associations to accomplish this. The average architect must feel and know that he has direct representation in the work of the profession as a whole. He must no longer feel a stranger, and therefore, somewhat reluct-

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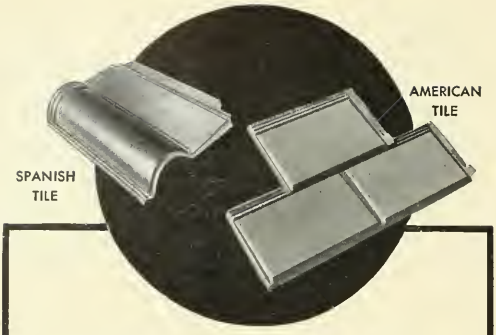

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PRODUCERS' COUNCIL MEETS ARCHITECTS

The first joint meeting of the recently formed Northern California Chapter of the Producers' Council with local architects was held Tuesday evening, May 26, at the St. Francis Hotel. Eighty-five sat down to the dinner of which 47 were architects or their guests, and 38 were representative of the firms comprising the Producers' Council.

After speaking of the pleasure of having the joint meeting between Institute members and the Producers' Council, Mr. Gutterson introduced G. R. Kingsland, Governor of the San Francisco Council, who outlined briefly some of the things which the Council hoped to be able to do in cooperation with the architects. Mr. Kingsland then introduced L. G. Gianini of the Edison Lamp Works of the General Electric Company who spoke on modern illumination.

In speaking of this movement Mr. Gianini said: "The spirit of the present high speed, highly mechanized age is such as to demand a new treatment in art, decoration, design and architecture—the new movement is in response to this demand and indeed expressive of the present age.

"Initiated by the French in 1923, closely followed by the Germans, many of the early examples were extreme and did not appeal to our taste. Most of the Americans adopting the new lighting treatment have done a most commendable job, creating something distinct and adapted to our taste. Practically all new commercial buildings erected in or contemplated for the larger cities incorporate some of this modern treatment in the architecture and lighting.

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classical manner—that it may be entirely enclosed; that it can be recessed in a wall pocket; that it can be concealed within a structural member, its light emitted through diffusing or diffracting windows.

"At last we are seeing lighting planned as a component part of the structure—the luminaire carrying out in line and decoration, the spirit expressed in the architecture."

The talk, which was illustrated by many beautiful colored slides showing typical modern lighting installations, was both interesting and instructive, and Mr. Gianini should be highly complimented for presenting what could easily be a very technical subject in such an instructive manner.

During the dinner Miss Berna Frechette sang several numbers. She was accompanied by Mildred Anderson. The applause showed the pleasure with which her numbers were received.

The credit for the success of the meeting was due in no small measure to the efforts of Birge M. Clark of Palo Alto who was in charge of the Institute program for that evening, and also to Benjamin F. Blair of the Standard Sanitary Company.

OCCUPIES NEW HOME

G. W. Williams Company, Ltd., construction managers and builders, announce the removal of their executive offices from 1404 Broadway to 315 Primrose Road, Burlingame. The company has taken the entire upper floor of the Crawford Building, just completed by its construction forces and designed in the English style of architecture. The new offices will enable the company to better handle its increased business and to take care of its clients and sub-contractors.

Some of the more important contracts completed by the Williams Company, Ltd., during the past year or two are the San Mateo Preventorium, E. L. Norberg, architect; Commercial garage for S. Adolphson, San Mateo; Union Oil station, San Mateo; apartment house for Mrs. Anita M. Reed, Burlingame, plans by R. B. Coleman; store building for Edmund Bourne, Burlingame, Grimes & Schoening, architects; residence for J. L. Dunscomb, Hillsborough, William Rowe, architect; residence for G. Sheldon Perham, Hillsborough, W. H. Toepke, architect; residence for J. D. Bromfield, Hillsborough, Farr & Ward, architects; residence for Jas. Rolph, III, San Francisco; alterations to C. B. Henderson residence, Hillsborough, William C. Wurster, architect and a bungalow court for Robert Klassen, San Carlos, E. L. Norberg, architect.

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GOOD CONSTRUCTION A BUILDING ASSET

By S. B. MARSTEN

IN this fast-growing community of ours, (Pasadena) with a climate which is apt to mislead a builder into believing that a light construction is all that is necessary, and where shoddy construction is more easily covered up because of the greater use of frame and stucco as building materials, it seems most important that the realtor be conversant with a few signs and earmarks of poor construction and conditions which might lead to costly repairs.

I am sure one of the pleasant experiences in your business, as it is in my own, is to have your client recognize that you have served him well and that he has found the house all that it was represented to be. It must be admitted that there are too many houses built to sell, where to the trained eye not sufficient thought or care in planning has been given and in some cases I am sorry to say even a direct attempt to save on the cost of construction at the expense of the life of the house.

It is inevitable where there are so many homes being built that some will fall in the hands of some men not technically trained or without adequate practical experience. The realtor who knows that good design and honest construction is an asset finds less sales resistance and is generally rewarded with a quicker profit.

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You can all think of houses which have remained vacant for a number of years which are mute evidence of either ignorance, carelessness or dishonesty on the part of the builder.

Suppose I am a prospect at one of the hotels, having arrived late yesterday afternoon and out this morning with an agent who greeted me in the hotel lobby on my arrival. He takes me to a good residential section and after showing me a number of attractive homes, takes me to a new house that has been built to sell. My first impression is unfavorable because of the general atmosphere, or lack of atmosphere, finesse, if you please, a subtle thing to define. The house is not well proportioned and is out of scale, a common error and pitfall to the untrained designer. The design of the street facade belongs to a house of at least 50 per cent greater width, and has defeated the effect on the part of the designer to make the house appear large.

On examining the other elevations of the house, it is very apparent that the exterior is loaded with so-called interesting motives with an idea of catching the eye of the buyer, or to create the impression of the generous use of money spent on the building.

To be brief, such a house might be somewhat interesting on first inspection to one wanting a showy place, but because of the lack of simplicity, good use of material

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and good proportions, it does not tend to suggest good construction nor does it have the charm which will draw the buyer back the second time.

Before checking up the detail of construction, I would want to enter the house and form an impression of the interior, whether good proportions and restraint of ornamentation prevailed; whether there was the proper relationship of rooms and advantage taken of the best views, sunny exposure and good ventilation, to say nothing of color.

Let us suppose again that I am taken back to the hotel and disposed of as a prospect and let me return as an inspector.

As to the more practical features, I believe necessary and that are sometimes lacking, the first of all is the setting of the house on the lot in a way to provide good drainage on all sides. It is most important that the house appear above the street level. If this is not possible the finish grade should slope away from the house to the street for some distance at least. All roof drainage should be carried to the street gutter and not allowed to spill on the ground around the foundation walls, thus increasing the chance of water in the basement or settlement to the foundations themselves. Our city ordinance now provides for the proper number and size of vents in the foundation walls, but in addition to this a clear area under the entire first floor of the house with ample clearance for easy inspection of these areas is important.

If all piers supporting the floor girders are of concrete instead of wood and if the entire area under the house is covered with rough concrete you will know the builder has endeavored to stop termites from entering the house.

If it is possible to find some places where a small piece of plaster may be broken off, it would

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determine what kind of lath was used on the exterior, and you can be more sure of the life of this exterior covering. If only chicken wire is found with no exterior sheathing over the stud, you may be sure you will be selecting a poorly constructed house.

The material used for the roof is important but easy to inspect. Where wood shingles are used, make sure they are not too thin or laid with an exposure of more than 4½ inches. One more check on the exterior—look for cracks around any exterior chimney, indicating not sufficient depth to the chimney footings.

Now for a check of the interior. I would notice the thickness of the doors, whether they are 1⅜ inches, which are the cheapest to buy, or 1¾ inches, which not only look better, but remain in position and fit the frames better. The vibrations of the floors would next have my attention, indicating the use of too small floor joists or too great spacing of girders. The floor of a good house should be rigid.

I would expect ample use of tile in the bathrooms because this again is supposed to make an impression on the buyer, but if I found bathrooms directly over the center of a larger room below, I would endeavor to learn if steel had been used in the floor construction. Otherwise I know that bad cracks will result in the plaster ceiling below, as well as in the tile work itself.

I would look at the mitre joints if wood trim is used as an indication of undue settling or for 56 degree cracks in the corners of the plastered openings.

The fitting of doors and windows is usually a reliable sign of good or cheap finish throughout, as is also the kind of hardware and the fitting of it to the doors and windows. The construction of the attic should not be overlooked, whether the rafters are at least 2 inches by 6 inches or 2

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inches by 8 inches for a tile roof or whether a generous amount of bracing has been employed so that the roof load is carried to the partitions or outside wall and not to the center of the rooms below. Cheap glass is hardly necessary to mention. Fortunately today the quality of common glass is far ahead of what it was a few years ago.

The condition of finish floors should be checked, joints should be tight, color even and no evidence of cupping of poor scraping. This last is easy to determine by rubbing with the hand crosswise of the floor.

The plumbing fixtures more than likely will be good. They are in sight and again create an impression. But how about the hot water system? A good house should have a hot water storage tank and circulating system to all fixtures. Test the time it takes for the hot water to reach the faucet after opening same.

If the house is not connected to the sewer, make sure that proper septic tanks of ample size have been installed. A good house also will have some heat resisting material used over the entire attic area. I would expect the use of conduit for all wiring.

Lastly, painting: A hard thing to control during building and difficult to inspect. About the only way left is for us to judge of the general appearance and also to look up the reputation of the painter.

In closing, I do not want to leave the impression that our good town of Pasadena has more than its share of cheaply constructed homes. Quite the contrary, I am sure of this fact, that the quality of construction of the average house built here is above that in any other community in Southern California.

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FREE BIDDING ON FEDERAL BUILDINGS

A decision of importance to contractors bidding on Federal building projects, was handed down by U. S. Comptroller General J. R. McCarl, when he abrogated the $4,600,000 contract for erection of the new Federal postoffice building at Boston, Mass.

The contract was awarded by the Treasury to N. P. Severin Company of Chicago, who submitted the lowest bid after the department had several times called for supplemental bids by contractors who bid on original specifications advertised by the government. The comptroller holds that the revised specifications should have been readvertised and his decision will affect the entire government building program throughout the country.

Pointing out that in the supplemental bidding the Severin Company reduced its original figure $1,029,600, despite the fact that more costly material was specified, the comptroller-general's decision declared that the contract was not let after advertising, as required by law, nor in conformity with the public policy of maintaining "full and free competition in the letting of government contracts."

Comptroller - General McCarl's decision quoted the Treasury Department as explaining that it changed specifications for the postoffice several times because of "great pressure" which was brought to bear on the department.

"When the government agencies repeatedly call for supplemental bids on the same project before awarding a contract the procedure is indistinguishable from the notoriously detrimental practice known as bid peddling," according to E. J. Harding, managing director of the Associated General Contractors.

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The call for bids was issued by the Treasury Department December 12, 1930, calling for granite construction to the third floor and limestone above that, with a second bid for granite construction throughout. Fourteen concerns submitted bids, the lowest for the granite - limestone construction having been submitted by the Seglin Construction Co., Inc., of New York, who instigated the investigation which resulted in the decision. Supplemental bids were called for twice thereafter, ten being submitted in response to the first and seven in answer to the second.

"When it was determined that the material, etc., required by the specifications to be used in the construction of the building would result in a cost in excess of the amount believed available for the actual construction work, all of the proposals should have been rejected and the work readvertised," the comptroller-general ruled.

"Especially should this have been done when it was concluded to accede to the local demand and construct the building with granite instead of with limestone from the third story. Obviously, the work which it is proposed to let to the N. P. Severin Company is not the work which was offered to all bidders by advertising for competition," the decision stated.

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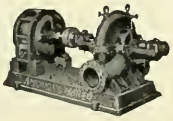
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PROVISIONAL CERTIFICIATES

California State Board of Architectural Examiners granted provisional certificates, at their meeting April 28, to the following: Southern District—Herman Louis Bodmer, 4030 Oregon Ave., San Diego; David C. Coleman, Ramona Hotel, Los Angeles; Earl C. Rahn, 2129 West 84th St., Los Angeles; Frank Green, 1612 Cosmo St., Los Angeles; Ralph Jacob Wirth, 862 N. Sunset Blvd., Arcadia. Northern District—Robert Nordin, 717 Mills Bldg., San Francisco.

SCHWAB IS CHEERFUL

"The nation can be cheered by the knowledge that the tide is coming in, insofar as business is concerned," Chairman Charles A. Schwab of the Bethlehem Steel Corporation said before the American Iron and Steel Institute. Mr. Schwab is noted for his optimistic leanings on American business.

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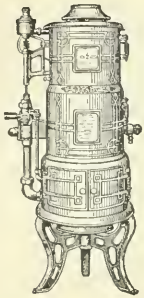

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THE claim for origin of San Francisco's present Civic Center has always been a more or less debatable one and only recently the controversy has been taken up with a new variation of opinion as to the ones really entitled to the credit. Fremont Older, editor of the *Call-Bulletin*, gives the honors to B. J. S. Cahill, architect, of Oakland, whose articles in *The Architect and Engineer* are well known to our readers. Mr. Older writes that "in 1899 Mr. Cahill submitted his plan to James D. Phelan, then mayor of San Francisco. The mayor was evidently deeply impressed. So much so that he took Mr. Cahill to the office of the *Examiner* and on the following Sunday, October 8, 1899, that newspaper gave the project a full page with illustrations. In the *Examiner* account it was announced as a 'gigantic scheme to transform the aspect of the city, a most novel scheme to make San Francisco the most beautiful city in the world.'

"Will Irwin, then a young newspaper man working on the *Chronicle*, wrote an enthusiastic article about it for the *Wave*, a weekly newspaper, and also delivered before a group of business men a lecture advocating what Cahill had termed the 'Civic Center.' The idea was taken up in the East, and the plan was reproduced with three other projects for American cities, called 'Civic Centers.' An article advocating the idea appeared in the *New York Municipal Affairs*. It was written by John de Witt Warner.

"On the very next day after the *Examiner* had presented this attractive plan for a more beautiful San Francisco, a contract was let for a five-story building at the gore of Market and McAllister streets. This, to Cahill, destroyed his plan and he lost interest in it.

"Four years later Thomas McCaleb suggested to me that we ought to get Mayor Phelan interested in a Civic Center. This involved no difficulties because the mayor was already interested. McCaleb suggested that we get the famous architect, Daniel H. Burnham of Chicago, to work out the plan. That was agreed upon. Then followed the organization of the San Francisco Adornment Society, with McCaleb as secretary. Burnham came and erected a little work shop on the top of Twin Peaks and began to make his drawings. Meanwhile McCaleb had shown Burnham Cahill's original plans, which Burnham thought were excellent.

"By this time Cahill had become entirely forgotten. Burnham, with his great name, completely overshadowed him. The project became known as the Burnham plan, notwithstanding the fact that Cahill's plan was at first incorporated in Burnham's first studies made at the Twin Peaks bungalow."

:: :: ::

THE May number of the *Washington State Architect*, official organ of the Washington State Society of Architects, has a lot of readable news in it and good advertising support. Building reports from the architects in the Pacific Northwest are encouraging with building permits in Spokane for April, 1931, double those for the same month in 1930.

:: :: ::

THE architect of San Francisco's city hall is wont to wear his hat on the bias. And if he so chooses whose business is it anyway but his? Diego Rivera, artist and mural painter, paints true to life. And that's his business too. But nevertheless the feelings of others must eventually be taken into consideration, even in the wearing of a chapeau, as the following paragraphs in the San Francisco *Chronicle* would seem to indicate:

"The hat of Arthur Brown Jr. is on straight, so Diego Rivera left town in safety. He can also come back if he wants to.

"The connection between Brown's hat and Rivera's departure was revealed just before the mural painter boarded a train for Mexico City, his home. Brown, the architect, saw him off.

"Rivera was brought to San Francisco last year to do a mural for the new Stock Exchange Lunch Club. All acclaimed its beauty when finished.

"Then, William Gerstle, president of the San Francisco Art Association, retained Rivera to do a mural for the California School of Fine Arts. Into this Rivera put the likenesses of many prominent San Franciscans, including Gerstle, Brown, Timothy A. Pflueger, the architect; Ralph Stackpole, the sculptor; Albert Barrows, mathematician; Lord Hastings and his own.

"Now, Brown's friends have smiled for years at his hats. Brown is a big man, but he will wear little hats, and will knock them on the side of his head. Rivera is a caricaturist as well as an artist, and he emphasized the hat angle and size.

"Mrs. Brown took one look at the picture. The hat MUST be changed, said she. So Rivera had to remove a large hunk of plaster to straighten up the architect's hat. He did the job satisfactorily, none of the other subjects complained, so Rivera was able to leave town."

:: :: ::

THE recent formation of a Producers' Council which is intended to be a forum for the exchange of information between the architect and building material producer, has prompted the query as to just how many are affected by this new movement. *Pencil Points* is authority for the statement that "There are in the neighborhood of eight thousand offices in the United States maintained by practicing architects. There are about thirty-five hundred producers of building materials of all classes doing a national business and about as many more important firms offering their products over more restricted areas."

So we have on one side of the fence, so to speak, eight thousand architectural firms who must select the various materials and items of equipment going into their build-

[Please turn to Page 121]

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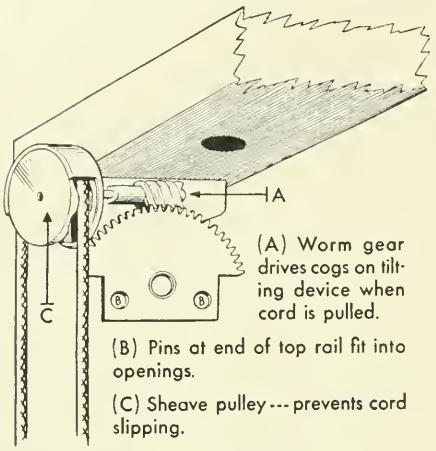
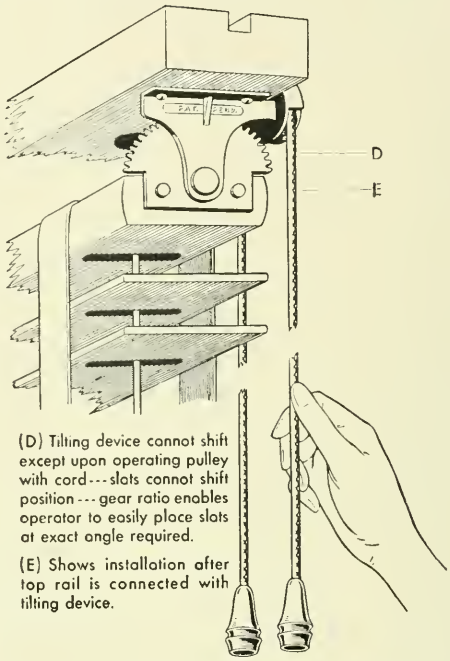


(A) Worm gear drives cogs on tilting device when cord is pulled.

(B) Pins at end of top rail fit into openings.

(C) Sheave pulley --- prevents cord slipping.



(D) Tilting device cannot shift except upon operating pulley with cord --- slats cannot shift position --- gear ratio enables operator to easily place slats at exact angle required.

(E) Shows installation after top rail is connected with tilting device.

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JULY
1931

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ENTRANCE, RESIDENCE FOR MISS ELIZABETH CLARK, OREGON CITY
WHITEHOUSE, STANTON & CHURCH, ARCHITECTS

THE
ARCHITECT
AND ENGINEER

JULY 1931
VOLUME 106
NUMBER ONE

PUBLIC PATRONIZES PORTLAND, OREGON, ARCHITECTURAL EXHIBITION

ONE of the most successful exhibitions of architectural work held in Portland in recent years was sponsored during the first week in June by the local Chapter of Architects. The display was held on the fourth floor of the Olds, Wortman & King Building. Besides a liberal showing of architectural work, from commercial buildings to the small home, the exhibition included allied work in design and construction, landscape architecture and interior decoration. The public took a great deal of interest in the exhibit as evidenced by the large daily attendance over a period of one week.

Architects whose work was displayed included Harold D. Marsh, Morris H. Whitehouse and Associates, A. E. Doyle and Associates, Jamieson Parker, Johnson and Wallwork, Sutton and Whitney, Francis B. Jacobberger, Lawrence, Holford, Allyn and Bean, Roscoe B. Hemenway, Knighton and Howell, George H. Jones, architect of school district No. 1; Harry A. Herzog, Harold F. Doty, and Bertha Stuart, interior decorator.

One of the features of the exhibition was the large number of entries showing detail of architectural design. Some very interesting treatment of doorways of homes and main entries for major buildings were shown, proving that in true architecture each part requires a dual treatment — a completeness in itself and at the same time a merging with the general motif so as not to emphasize one to the detriment of the other. In true architecture this fine balance is maintained throughout the entire project.

Incidentally the showing of doors and entryways brings vividly to the attention an element in design that is usually taken for granted, and yet, when considered by itself, may often prove the outstanding single feature of a building, or a home. Certainly no other part of a house or a building comes more frequently to the attention of a visitor, be the impression created a lasting one on a discriminating mind, or a fleeting one on a mind less appreciative of the fineness of things made by men.

One section of the exhibition was devoted to the work of students at the School of Architecture and Allied Arts, University of Oregon.

The exhibition reflected clearly the high type of architectural work being done by the profession in Portland. It revealed the capacity of Chapter members for efficient and sympathetic treatment of any architectural problem, regardless of the magnitude.

RESIDENCE FOR MISS ELIZABETH CLARK, OREGON CITY, OREGON
Whitehouse, Stanton & Church, Architects

MACLEAY PARK SHELTER, PORTLAND, OREGON
Ernest F. Tucker, Architect

Photo by Boychuk

STUDIO FOR MISS MARY MALLORY, PORTLAND, OREGON
JAMIESON PARKER, ARCHITECT

Photo by Albert and Alde Jourdan

RESIDENCE OF COLIN LIVINGSTONE, LAKE OSWEGO, OREGON
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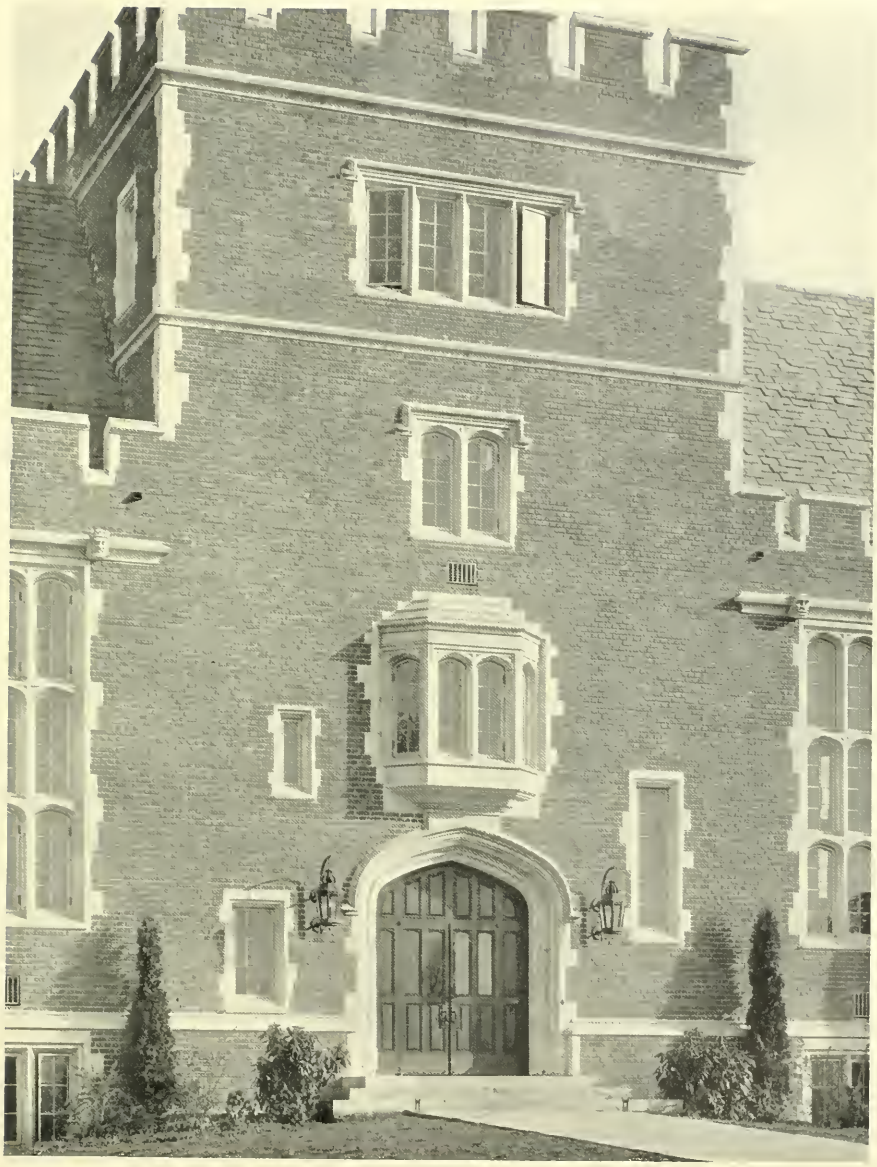

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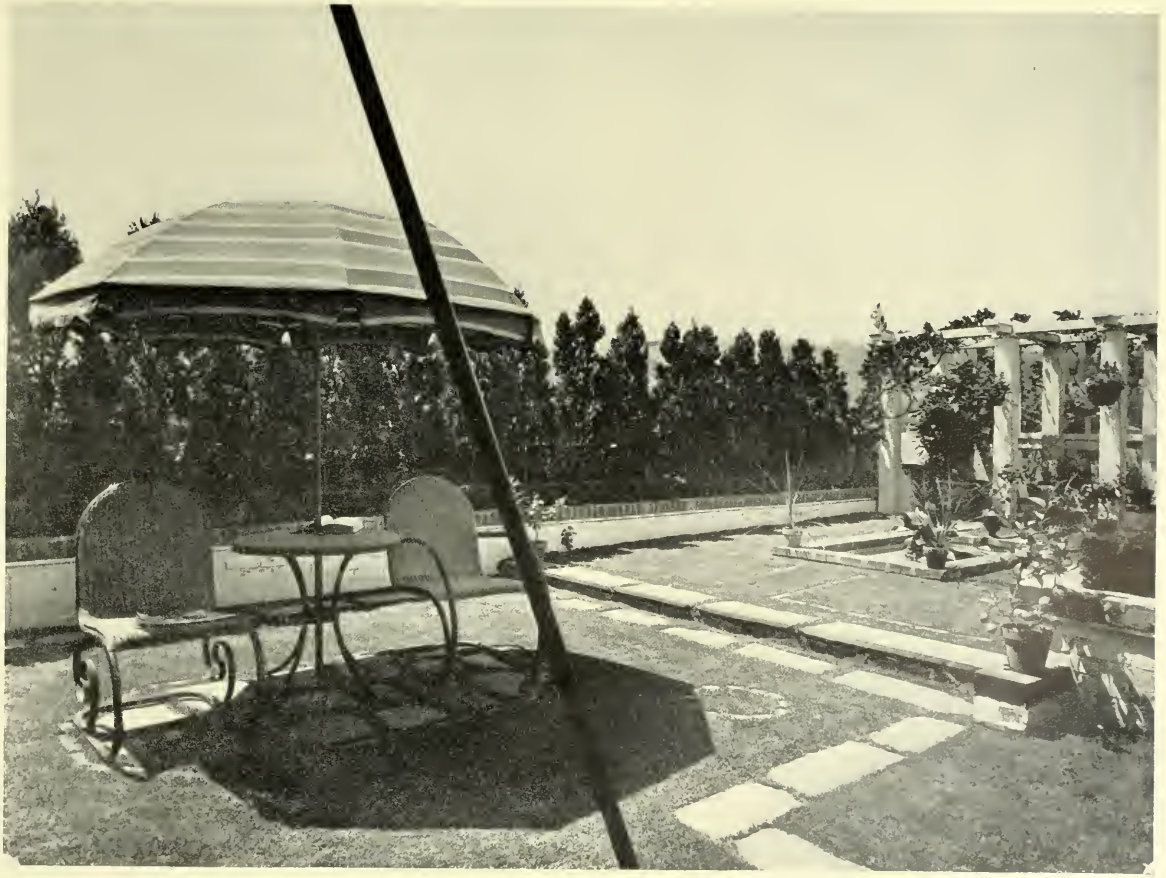

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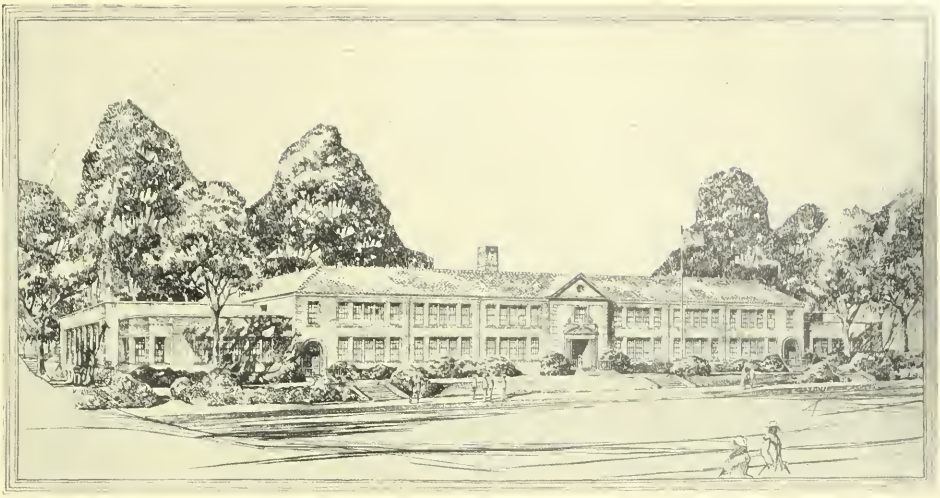

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George H. Jones, Architect

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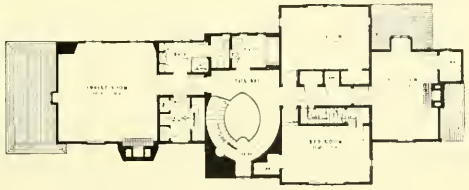
RESIDENCE OF LELAND JAMES, PORTLAND, OREGON
Harold W. Doty, Architect



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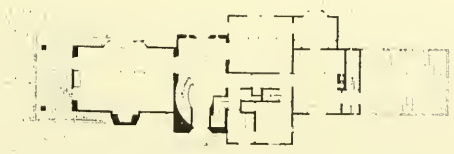

FIRST FLOOR

PLANS, RESIDENCE OF LELAND JAMES, PORTLAND, OREGON
Harold W. Doty, Architect

HOUSE OF HARRY A. ROBERTS, PORTLAND, OREGON
Jamieson Parker, Architect

Photo by Albert and Alde Jourdan

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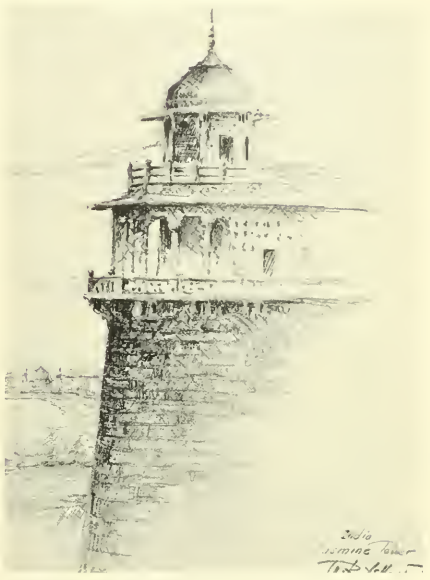
AN INTERVAL IN A WORLD TOUR

by EDNA HOLROYD YELLAND

IF you go to India from Rangoon you take a small boat of a British line, with a crew of Lascars, a fleet of stewards all Goanese, the worst food in the world served with the most ceremony, and a special pilot for the Hooghly River, up which Calcutta lies eighty miles from the Indian coast. You spend three or four days tossed about in the rough waters of the Bay of Bengal, determined to preserve unblemished your record for freedom from seasickness but acknowledging to yourself an interior uneasiness. The white passengers are few, and you learn much about the British Major from Karachi who has no romance in his life but a Chrysler car, the only one in his province; the shellac merchant from Dum Dum, the big Irishman from the Calcutta go-downs, and the boy from Kentucky who has lived so long in India that he travels with two native bearers and no longer even fastens his own shoelaces. You talk with the Maharajah of Dumraon who is returning from Singapore with a flock of brilliant birds for his aviary. The winds blow, the rains increase and the fifteen hundred passengers traveling "deck" are drenched and miserable in their exposed situation. The Mahommedans among them petition the captain to be allowed to hold a prayer meeting on the promenade deck, and you witness the unforgettable sight through cracks in the ship's saloon curtains. Allah hears them; the storm abates, and at last the shelter of the Hooghly is reached and you arrive at Calcutta.



JUST ABOVE THE TAJ MAHAL RISES THE DELICATE WHITE ALABASTER TRACERY OF THE JASMINE TOWER

Here we saw, as we were to see throughout India, sacred cows roaming the streets in blissful sleek content, munching a mouthful of vegetables taken from some dealer's stand here, lying down on a car track there, undisturbed so long as it pleased them to lie, while the trams accumulated on the track behind; walking in the aisles of large shops and honoring dwellings by entering their doorways to rest in the shade. The cow with all her products is sacrosanct in India. India is indeed a cow Paradise, and the Carnation milk flock might not continue to justify their company's boast if they knew how inferior was their position compared to their Indian sisters.'

We visited the many monuments of Calcutta and experienced the delights of the Great Eastern Hotel, so typical of India where all is strange, a combination of gorgeousness and inconvenience, grandeur and discomfort. Everything was a thrill, even the way the bath water ran from the tub in an open ditch across the floor of delicate Eastern tile, and the pale lizards swinging on the bedroom curtains.

When we surveyed the kit supplied for our journey across India we gasped at the bedding rolls. In India your bed travels with you and is laid out at night on the seat in your compartment in the train. Out of Calcutta we went by the Punjab Mail on a night of full moonlight and fell asleep as a landscape like a dream slid by. We wakened in the morning to another unreal scene, a treeless one, with small domed yellow mud houses and natives in the most brilliant clothes, the women carrying water jars on head or shoulder.

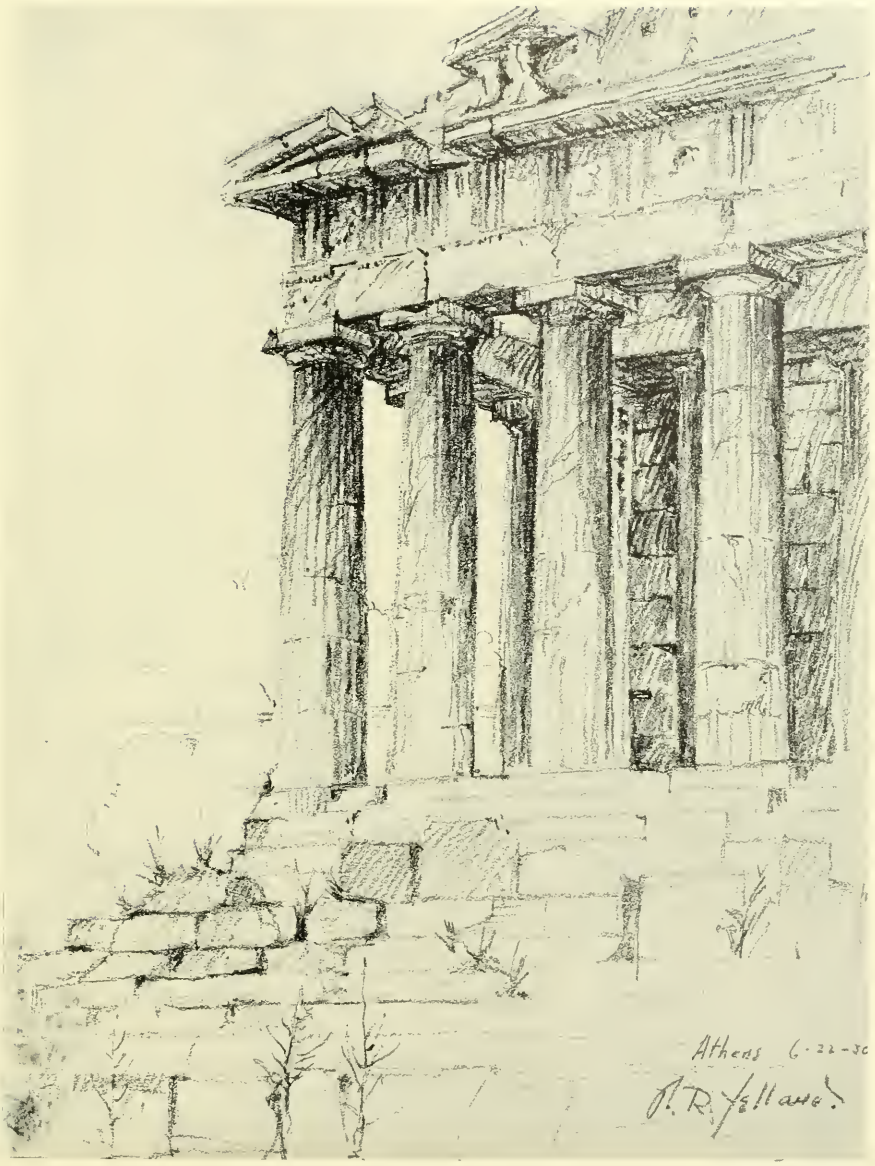
Soon we were at Benares, the place of pilgrimages, of the golden temple by the sacred river. Here for several days we saw the wonders and horrors of this place. We saw a Hindu wedding procession go down to the Ganges, the bride of nine years tied by her veil to the robe of the bridegroom. We saw inexplicable ceremonies, ending with whispers in a cow's hallowed ear, and the fires of the burning ghats at dusk and dawn. We saw the monkey temple where chattering apes are in possession, and the temple of Kali, Shiva's horrible wife, who must be appeased by blood. It used to be Mahommedan blood. freshly spilt, but under British rule she is obliged to be satisfied with a daily goat. From a discreet distance we viewed the shrine of the smallpox goddess. Always in our ears was the music of the hammering of brass, for the brasses of Benares are famous.

On then to Agra, which holds India's chief treasure, the Taj Mahal, and so much else of beauty besides; the Pearl Mosque of Shah Jahan, and the incredible palaces jewelled with lapis and jade and carnelian, and the delicate Jasmine Tower.

By this stage of the journey we were accustomed to some of the ways of India: to Chota Hazri served in bed in the morning, to the demand for alms, delivered with lowest bows and the dubious compliment "You are my father and my mother!" To the universal "Salaam!" at meeting and parting, and to being "Sahib and Mem-Sahib" to all. To the weird Indian music that rises in the dawn, from what source we never could discover. To the cry of the brain-fever bird that announces the approach of the monsoon, and the "tonk, tonk" of the coppersmith bird. But not yet were we seasoned to India's burning heat, and after the days at Agra we retreated to Simla in the Himalayas where the British Indian Government goes for refuge during the six hottest months of the year. Restored by a visit to this cool high place, our eyes filled with the Himalayan pageant of blazing pomegranate bloom, wild strutting peacocks, monkeys swinging through the trees, brush people and arid terraced farms, we returned to the plains and visited many of India's cities. We patted a Maharaja's elephants, saw the glories of the palaces at Delhi, and looked out from the Kutab Minar on the ruins of seven ancient Delhis. We ate meat curries, sweet curries and the strong-scented "Bombay Duck"; mangoes and queer melons; and drank the milk of unappetizing gray buffaloes and the strange brew the British call coffee. We went to Mahtma Gandhi's Asram and spinning school at Ahmedabad, and at last we came to Bombay, the gateway to India and set sail for Aden and Egypt.

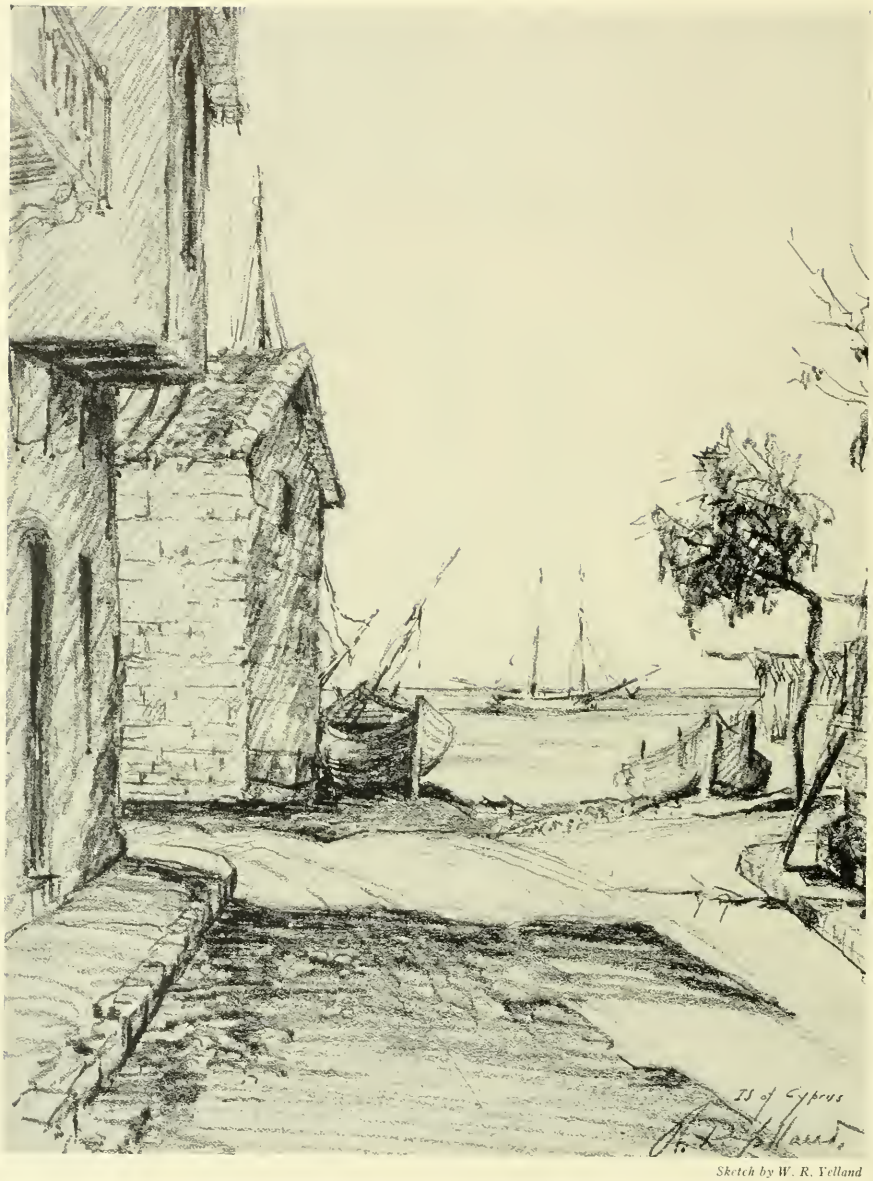
In Cairo at the station there was a mad competition for our presence at the various hotels that seemed quite flattering until we learned that the tourist season was just closed and the occasional rare traveler is like meat thrown to hungry lions, after the first of June.

Egypt is a place of boundless interest and its beauties have been often and variously told. We noticed, in this our first contact with the Arab, the prevalence of eye trouble—one in every six seemed to be cross-eyed, many eyeless, and the babies with flies gathered on their eyes, staring helplessly at the sun, were a heart-breaking sight. We rode camels with lovely names like "Shalimar," were fought over by half the dragomans of Cairo and Gizeh, and



Sketch by W. R. Yelland

THE PARTHENON, GLORIOUS IN RUIN

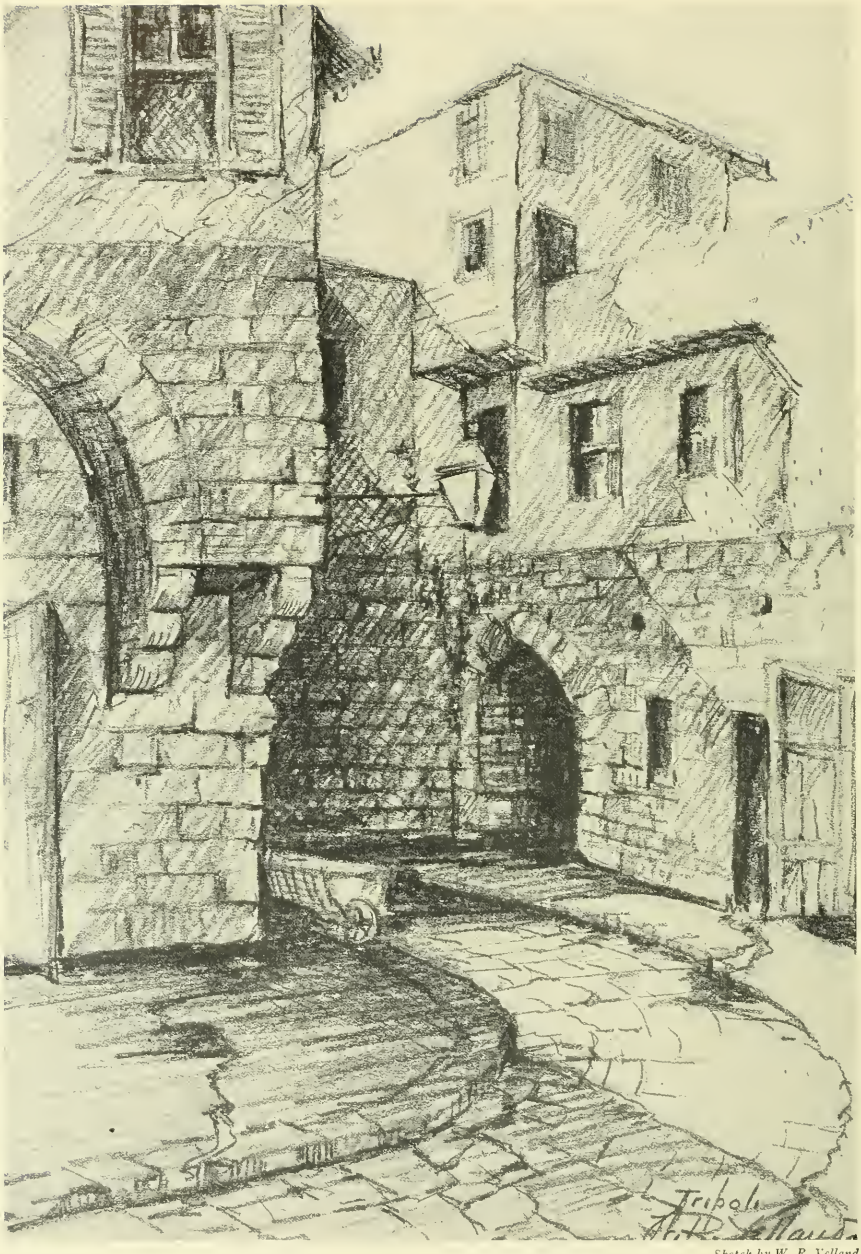


Sketch by W. R. Yelland

IN CYPRUS OLD NETS AND OLD BOATS FRINGE THE SHORE

Sketch by W. R. Yelland

CURVING STREETS IN CYPRUS SPARKLE WITH SUNLIGHT



Sketch by W. R. Yelland

IN TRIPOLI AS ELSEWHERE ALONG THE MEDITERRANEAN ARE ODD STREETS AND CORNERS

Sketch by W. R. Yelland

HUNDREDS OF MINARETS RISE MAJESTICALLY ABOVE THE LANES OF DAMASCUS

bought scarabs in the Mousky, the lovely, dirty Mousky, so soon to be legislated out of its beautiful but disease-harboring existence.

We went from Egypt into Palestine, Jerusalem our main objective, and notable in a round-the-world trip. This city of stones and clear light, black cypress and twisted olive, with its wall on which one may walk looking down into Gethsemane and the vale of Kedron, is one of the chief of the world's beauties. Its strangeness — you are jostled in its streets by camels and donkeys—its amusingness—the quarreling Arabs, the bargaining natives and the mixture and contest of races and religions make it the most entertaining spot in the world. A guide tells you that a Mahommedan is keeper of the key to the Church of the Holy Sepulchre because none of the four Christian orders in possession is willing to trust the other varieties.

Damascus, again, was worth the long journey and the wait for hours at Haifa while the driver promised each hour that we should start immediately, and the hour grew later and day hotter. The people of the Holy Land seemed least capable of telling the truth of any variety of native we encountered, but they have a smiling charm that makes one forgive them. Damascus we reached late at night after delays at the Syrian border and a terrifying visit to some police with waxed moustaches and fierce expressions. The city has domes and minarets, twisting streets and a river whose banks are covered with open-air cafes where the hubblebubble smokers nod in their red fezzes over long curly pipes. The streets are full of brassy music and strange smells. Camels and donkeys enter the town bearing the humblest burdens but gorgeously dressed in beads and bells and saddle-bags of rich needlework. There is a hint of Persia here. Caravans pass between Damascus and Bagdad, and the bright wares of Persia mingle with the Syrian ones in the bazaars. The kittens that play in the dirty gutters are long-furred and fluffy, showing a Persian lineage.

All of Syria we found beautiful with its cedars of Lebanon and its purple mountains and abundant streams. We left the interior with reluctance and fared to Beyrouth, to find a sailing for Greece, so ending our Oriental interval.

Mural decorations by Lucille Lloyd

MAIN ENTRANCE, PRESBYTERIAN CHURCH, OJAI, CALIFORNIA
Carleton Monroe Winslow, Architect

LOS ANGELES MURAL PAINTER STIMULATES PUBLIC INTEREST IN ART

by CARLETON MONROE WINSLOW

LUCILE LLOYD, mural painter and decorator, recently held a display of her work at the Architects' Building Exhibit, Figueroa Street, Los Angeles. A large number of people viewed the drawings and paintings with a great deal of interest. The author has an attractive personality, which, coupled with her talents, have made her many admirers and friends. The late B. G. Goodhue thought highly of her ability and influenced her not a little with his personalities and theories. Miss Lloyd enjoyed the enviable reputation of being the only woman who ever invaded Mr. Goodhue's draughting room for steady employment. Her work in Southern California includes such important commissions as "The Madonna of the Covered Wagon," a most interesting and amusing allegory in the South Pasadena Junior High School. One of her most recent paintings of interest is the proposed mural decorations over the entrance porch of the Ojai Presbyterian Church, Ojai, California, and pictured above.

Mural by Lucile Lloyd

CARTOON FOR FRIEZE, THE STONEMAN SCHOOL, SAN MARINO
Marsh, Smith and Powell, Architects

Photo by Luckhaus Studios

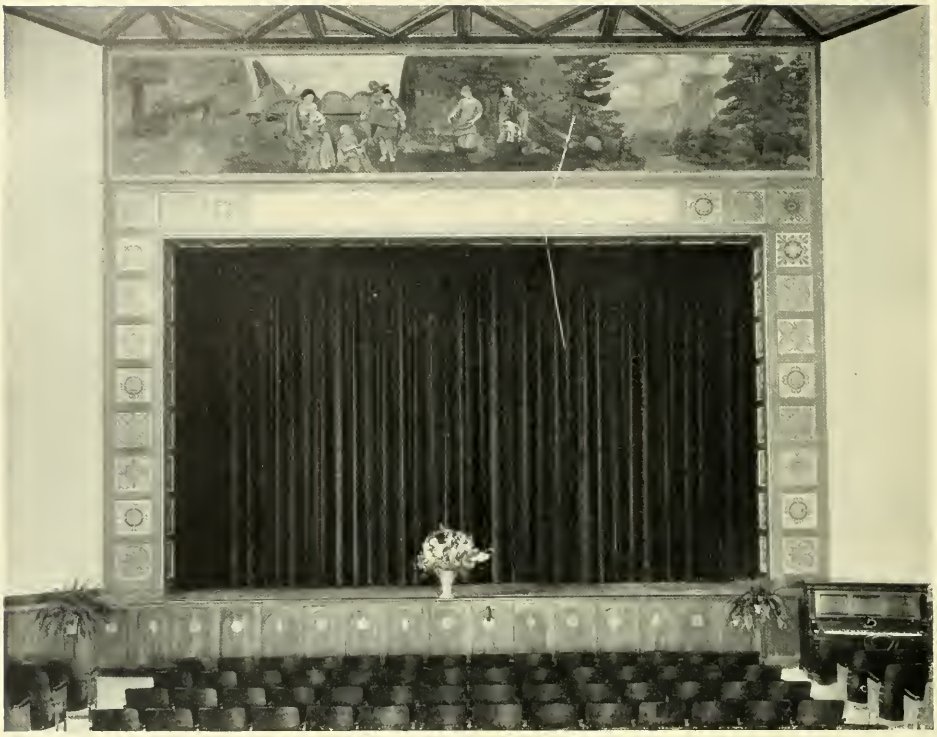
KINDERGARTEN ROOM, STONEMAN SCHOOL, SAN MARINO, CALIFORNIA
Marsh, Smith and Powell, Architects

Mural by Lucile Lloyd

CARTOON FOR FRIEZE, THE STONEMAN SCHOOL, SAN MARINO
Marsh, Smith and Powell, Architects

Mural by Lucile Lloyd

CEILING AND WALL PANELS, FIRST BAPTIST CHURCH CHAPEL, PASADENA
Carleton Monroe Winslow, Architect



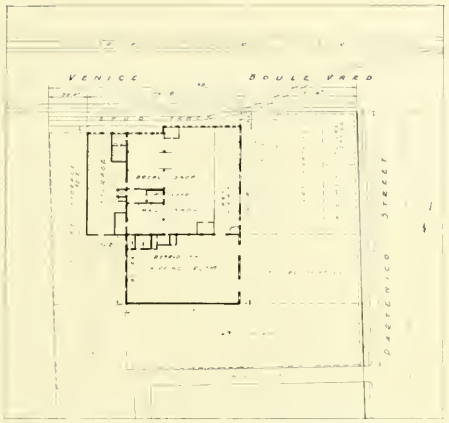
Mural, "The Madonna of the Covered Wagon," by Lucile Lloyd

PROCENIUM ARCH, JUNIOR HIGH SCHOOL, SOUTH PASADENA
Marsh, Smith and Powell, Architects

In exhibitions such as that recently held in Los Angeles, the drawings themselves are inadequate expressions of the completed products which they represent, for naturally, the paintings and work in plaster, gesso and the like, in their permanent setting, cannot be sufficiently represented on the walls of a single room.

However, Miss Lloyd's exhibit emphasized the necessity of having such work done by a painter thoroughly trained in the principles of architectural theory and design and of the growing appreciation of such decorative work on the part of the architects and the public.

Unquestionably, the demand for good mural decoration will increase in Southern California as time goes on.



PLOT PLAN, PLANT FOR HELMS BAKERIES, LOS ANGELES
E. L. Bruner, Architect

Here is a modern baking plant designed with a view to future extension, built to answer the requirements of present day baking efficiency. The site is 398x333 feet with the first unit covering an area of 197x231 feet. The one-story structures are of reinforced concrete while the two-story wings have steel frames. Although the contract called for 90 working days, the plant was completed 25 days ahead of schedule.

A MODERN BAKING PLANT

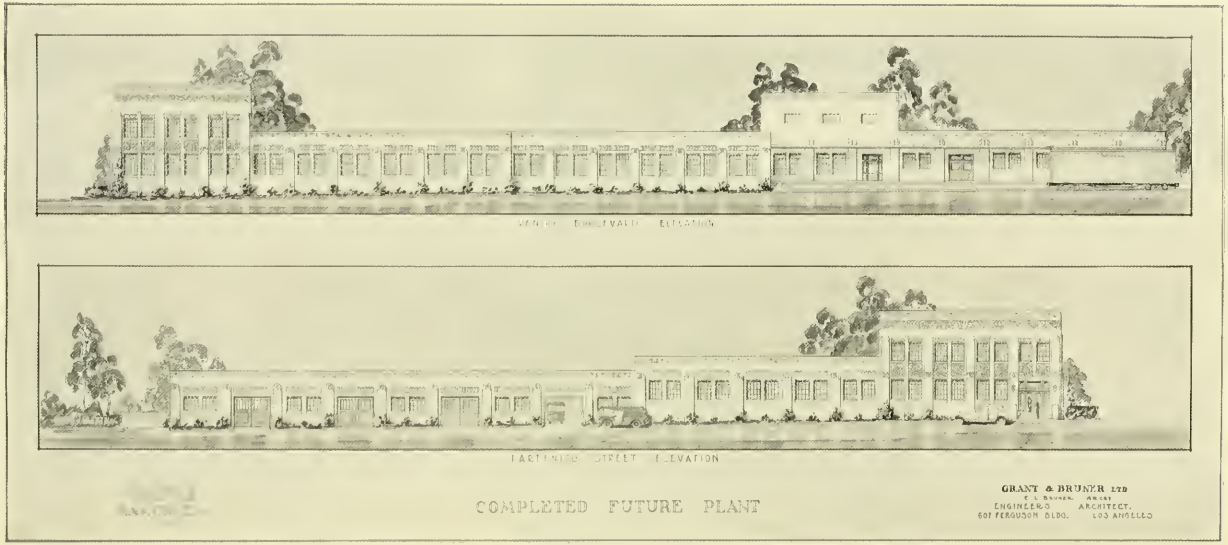
by K. C. GRANT*

CONSTRUCTION of the modern baking plant of Helms Bakeries, Ltd., 8800 Venice Boulevard, Los Angeles, California, was started November 1, 1930, and was completed in January of this year. The plant is located on a site 398 by 333 feet, with Venice boulevard on the north, Partenico Street on the east, and a twenty-foot alley on the south. A spur track from the Pacific Electric Railway has been brought alongside the building on the north, where raw material can be unloaded onto a concrete loading platform, protected by a canopy. The plant has been designed with particular reference to its logical future expansion to cover the entire site, as shown in the accompanying plot plan and elevations.

The exterior walls are of reinforced concrete, painted with cement paint of a pleasing ivory shade, leaving the form marks exposed. Exterior sash and trim have been given a soft green color. A restrained modern type of typical post and lintel design has been used, the intention being to express simple dignity and permanence, together with the sanitary and cleanly appearance that must form the background of such a product. Ornament has been confined to spandrels, pilaster caps and top moulding. The pilasters have a conventional design of a spear of wheat, in keeping with the occupancy. The office portion is two stories in height, and is somewhat more ornate than the rest of the building, having a cast ornament in the spandrels above the first story windows, and a continuous cast floral design above the second story windows.

The portion of the ultimate plant which has already been built, as shown in the accompanying plot plan and elevations, is 197 by 231 feet, with interior arrangement as indicated. The second floor of the two-story portion houses the mixing room and dough room, and is served by a 3000-pound hydro-electric elevator, with landings at second floor and at mixing platform levels. The present second floor is 49 by 92 feet, and provides adequate space to accommodate all equipment necessary for the bread-mixing requirements of the ultimate plant as shown. The foundations and structural

*President, Grant & Bruner, Ltd., Los Angeles, Calif.



BUILDING FOR THE HELMS BAKERIES, LOS ANGELES
E. L. BRUNER, ARCHITECT

frame of this portion of the building have been designed to permit the enlargement of the second floor to an area of 49 by 132 feet, so that the cake-mixing department can later be moved upstairs.

The general scheme of future expansion, as required, is clearly indicated on the plot plan. For example, as additional bread and cake shop space is required, the proposed extension of the plant will permit the wrapping department to be shifted eastward, thus enlarging the bread and cake shop space; and the raw storage and shipping space can be enlarged exactly as required, without interference with other departments. It will be noted that the site particularly lends itself to future expansion of the plant, by reason of easy means of approach on three sides.

The storage and shipping space is housed in one-story structures, having brick and reinforced concrete walls, and wood roof trusses, with wood purlins, wood roof sheeting, composition roofing, and concrete floors. The present and future two-story portion has a structural steel frame; and in the section where the dough mixers are located, the second floor is of concrete, heavily reinforced to take up vibration stresses and the weight of the mixers. The balance of the second-story floor consists of a 4″ pine sub-floor, with a $1\frac{1}{8}$″ maple finish floor. The one-story portion of the bread and cake shops, including all proposed future extensions of these departments, has a structural steel sawtooth roof, with 2-inch roof sheeting and composition roofing, and a $1\frac{1}{8}$″ maple floor, laid on 2″ pine sub-floor, supported on creosoted pine sleepers secured to a waterproofed 4-inch concrete sub-floor. The structural steel roof of this part of the present and future building is so designed as to eliminate practically all interior columns, in order to give maximum facility for installing present and future equipment. Headrooms in-the-clear have also been selected with foresight; for example, the 14′6″ clearance below trusses in the bread and cake shops provides ample space for the future installation of the cooling conveyors which are to be installed later.

The steam requirements of the plant, at the ovens, humidifiers, pan washing rooms, etc., are taken care of by a 25-horespower, gas-fired automatic boiler, with provision in the boiler room for the installation of a duplicate unit when required. The refrigerating machinery room has an ice-water tank, thermostatically-controlled, of sufficient capacity to take care of all present and future requirements of the ultimate plant, such as cold-water jackets around dough-mixers, water-mixing valves, milk coolers, etc. Included in the refrigerating machinery is also ample capacity for the present cork-insulated cold storage room, as well as for a future contemplated freezer room for carload lots of frozen eggs, etc. The dough room on the second floor, which has insulated walls and ceiling, is provided with an air-conditioning unit, as is also the proof-box on the first floor. The repair shop in the shipping room is wired for the necessary machinery, and is also provided with an automatic air compressor unit of sufficient capacity to distribute compressed air to desired points for tire servicing, and for cleaning bread and cake machinery throughout the plant. An automatic, electrically-driven gasoline pump, with a 1000-gallon storage tank, has been installed, to service the fifty sales trucks with which the plant is starting operation. The usual compressed air and water facilities are provided at this point.

The water supply is brought to the plant through an eight-inch main, in order to give adequate capacity for all present and future requirements of the automatic sprinkler system with which the plant is equipped. From this main is taken off a three-inch domestic line, which first passes through an automatic filter, and then supplies all plant requirements except those of the sprinkler system.

All layout studies, architectural and engineering plans for the plant and its mechanical equipment were prepared by the firm of Grant & Bruner, Ltd., 607 Ferguson Building, Los Angeles, California; and the erection was carried out by the construction department of the same firm, the work being completed in 65 working days, as against a guaranteed maximum of 90 working days.

THE FREEWAY — A NEW THOUGHT FOR SUBDIVIDERS

by GEORGE D. HALL* in "Landscape Architecture"

WHEN a new idea for solving regional planning problems is offered by such an authority as Edward M. Bassett, recently President of the National Conference on City Planning, it is worthy of deep consideration by city planners, subdividers, and property owners.

Mr. Bassett has urged the need of a new type of artery for regional travel which he terms the "Freeway": these Freeways to be acquired and built in the public interest primarily for through travel, the abutting property owners to have no rights of access or egress, except in so far as the governmental authorities may grant occasional cross-street connections actually needed in subdividing neighboring properties. Before taking up the distinctive characteristics and functions of the so-called Freeway, which I firmly believe would go far in advancing better regional growth, let us consider the conditions that now exist along arterial highways and major street extensions in the suburban areas of our cities.

Regional Highways and Major Street extensions, planned and located on paper by Planning Commissions, have usually been built at high cost to abutting property owners who have themselves urged the construction of these highways with the mistaken idea that long, continuous strips of business lots would more than repay for the land given in addition to assessments, costs of highway construction and maintenance. "Zoned for Business" has followed the building of almost every street or highway eighty or more feet in width, until our city suburbs and county territory are now confronted with mile upon mile of ribbon strip business zones; our subdividers and landowners are holding, at high carrying charges, a vast number of business lots that cannot be sold; and our traveling public are motoring along great, wide streets, bordered with nothing more beautiful than oil stations, hot-dog stands, or billboards. Another sad commentary is that many extensive, beautiful tracts in our regional areas, whose logical futures and economic values were predicated on an intelligent subdivision for suburban homes, with at most a small, compact business center, are now so cut up by these highway zones of business, that the greatest skill in subdivision planning cannot overcome the depressing influence of these never-ending, God-forsaken business strips.

In view of the fact that real estate interests in general and subdividers in particular are suffering from conditions due to an excessive number of business lots unwisely located, it behooves real estate boards, planning commissions, public officials and property owners to give thought to this growing evil and to consider the Freeway as a potential corrective. It is with the hope that the thought of Mr. Bassett may bear fruit that I now analyze and enumerate the distinctive merits and advantages of this new kind of arterial roadway, so strictly controlled in the interest of public travel that abutting property owners shall have no rights of access or egress, except in so far as an occasional street may be permitted by governmental authority.

Freeways, as I conceive them, should be normally one hundred feet in width, the sixty-foot street pavement (upon which no

[Please turn to Page 75]

*Of Cook, Hall & Cornell, Landscape Architects and City Planners, Los Angeles.

TERMITE AND FUNGUS DAMAGE IN BUILDINGS

by MELLEN C. GREELEY, A. I. A.

Other states besides California are suffering from the ravages of the termite. Studies reported to the American Institute of Architects by Mellen C. Greeley of Jacksonville, Florida, show that damage in Illinois in a single year amounted to $1,000,000. *"There is no portion of the country, and no type of building which may not, under certain conditions, be subject to attack," Mr. Greeley says.*

Architects are urged to put into practice methods of prevention and cure which are being found effective by trained investigators. The building codes of cities, it was declared, should contain recommendations on the subject to prevent further depredations and to save enormous repair bills.

THE writer first became interested in this subject of damage to buildings by termites and by fungi eight years ago when the residence of a client was attacked, and in spite of all that could be done, was damaged to such an extent that finally it had to be demolished. This was the first of a long list of examples coming under observation, and in seeking for a remedy the subject became so absorbing that an effort has been made to obtain and digest all available information. Knowing that only a small percentage of architects have had the opportunity for observation and believing that the subject is worthy of serious consideration, it is a pleasure now to pass on to others a resume of knowledge gained from experience and study of technical records, in the hope that interest may be awakened more generally among members of the profession.

This paper was originally prepared as a talk before the Florida Association of Architects. Parts of it have since been "put on the air" over the radio station at the University of Florida, as part of an educational series, and while the subject may be of more interest to those architects who practice in the southern half of the United States, and especially those who are called upon to design residential buildings, there is no portion of the country, and no type of building which may not, under certain conditions, be subject to attack either by termites or by fungi. If not the building itself then perhaps the contents may be attacked.

Those architects whose practice is limited to buildings of the strictly urban type, may feel that they are immune, but even they may still live in suburban residences which may be liable to attack, as in the case of a Philadelphia architect who told the writer of finding termites in his own home in one of the suburbs of that city. Termites are known to have destroyed valuable papers filed in strictly noncombustible vaults which were apparently immune from any other source of damage, and which were constructed entirely of steel, concrete and masonry.

If the architect is to hold the position of master builder and continue to be looked up to as the co-ordinator of all phases of the building industry, he should know all building materials and their proper use. In

*Other articles on the Termite have appeared in **The Architect & Engineer** for November, 1929 and July, 1930.

most sections of the United States wood has always been one of the principal building materials and will continue to be used in spite of the many so-called substitutes, because wood has certain characteristics which no other material can supply; however, there seems to be an increasing menace from wood destroying insects and plants, the reason for which is not definitely known, so that it seems necessary for the architect to acquaint himself with the causes of destruction and with the remedies for them. It appears to the writer that this subject of prevention of damage by termites and fungi is a worthy one for architects to sponsor, as the amount of damage to buildings caused by termites alone has been estimated to be as much as one million dollars annually in one state alone (Illinois), and most of that damage could have been eliminated by proper construction and preventative measures.

The United States Department of Agriculture, through the Bureau of Entomology, has made exhaustive studies of termites, and within the past few years a number of bulletins have been published giving information and advice. The State of California has also done fine work through their Termite Investigations Committee in conjunction with the University of California. The Department of Agriculture, the Forestry Experimental Stations of the University of Idaho, and the University of Wisconsin, and several others have conducted experiments with fungi and a number of bulletins are available on this subject. This paper will quote from these authorities and thanks is here given for direct advice furnished and for permission given to use information contained in bulletins written by Dr. Thomas E. Snyder, Chief Entomologist, U. S. Department of Agriculture, Dr. Ernest E. Hubert, Professor of Forestry of the University of Idaho, Dr. Hermann Von Schrenk, Consulting Timber Engineer and many others. A book by Maurice Maeterlinck, Belgian author, entitled "The Life of the White Ant," contains valuable information about the termites and the subject is handled in such a manner that the book reads like fiction, although it is based strictly on scientific facts. In quoting hereafter the writer will make no attempt to be scientific as he feels that this subject is a real problem for the architect and that it should be faced in a work-a-day manner.

Termites and fungi are in no way related as the former are insects and the latter are plants; however, they are so often found in the same locations, and damage caused by them is so similar that it seems advisable to consider them as one subject. Also preventative measures which suffice for one are satisfactory for the other in most cases.

Termites are true insects, and are not ants, although they are often spoken of as "white ants" and sometimes as "flying ants." They are related to the cockroaches but in appearance they resemble the ants more than they do the cockroaches. Unlike the ants, they live entirely under cover and except during the swarming period they are not likely to be seen unless the wood in which they live is broken into. Their food is almost entirely cellulose which is digested by the help of certain organisms contained in their digestive tracts, and they are one of the few forms of insects which can live on both live and dead wood. They are found in all parts of the globe except the very coldest and while they thrive best in the tropics, there are some forty or more species native to the United States and in all but three or four States they have been known to cause damage.

Termites have lived on this earth for many millions of years, as witnessed by fossils found in the oldest geological formations,and the species with which we are concerned were probably here long before man appeared. In some parts of the world they are mound builders, in others they are satisfied to build subterranean homes, while there are some species which live entirely above ground in comparatively dry wood. In this country we have two general divisions, the subterranean species and the non-subterranean species. The latter have not become general, in fact they are almost unknown except in the most southern parts of the United States, which is fortunate for if they should become numerous it would be a difficult matter to combat them because of their habit of attacking wood at any

height above the ground. The subterranean species cannot live without contact with moisture and as this contact is usually made with moist earth, the methods of prevention have to do with separating the structural frame of a building from the earth.

Originally termites confined their activities to trees and other growing plants, but perhaps due to the destruction of forests or perhaps because in many of our modern buildings we have made the wood more accessible, they now seem to be leaving the forests and are becoming more prevalent in the cities. Termites live in colonies much as do the ants and the bees, and even more than the others, the termites have developed a high order of community life which has its kings and queens, its workers, its soldiers and other castes. Each colony is self-sufficient and no connection is maintained with any other colony, nor is there any permanent opening to the outside world. The colony usually lives in the ground or in the roots of trees, and at times may have excavations many feet in depth. It is this characteristic which makes them difficult to eradicate. As they live entirely in the dark none of the castes have eyes, except those few which develop both eyes and wings at the swarming period.

In locating food, termites show an almost uncanny knowledge or instinct and in order to reach it they often show an engineering ability which is hard to believe. They seem able to sense wood at a considerable distance, as for instance the sills of a building resting on masonry a foot or more from the earth, or the joists and flooring some inches higher, and having located this food supply they soon get access to it, always remaining under cover, however. If the masonry is defective they may build their runways along the cracks or even through the mortar, but if the masonry is of good quality they will build passage tubes composed of a secretion, mixed with sand and particles of wood, in order to span the non-edible area. It is known that they sometimes build free-standing tubes extending up from the earth as high as eighteen inches in order to reach the bottom of joists.

When contact has been made at one or more places in the wood construction, the workers run channels as far as necessary in order to supply food to the colony. These channels are usually run well within the timber following the softer parts of the annular rings and for this reason a piece of wood may be practically consumed without there being any surface indication. Perhaps the first intimation one may have of the presence of termites will be the failure of a floor or through having a door fall out of its jambs. Or perhaps one may lift a book or magazine and find that there is nothing there except the exterior surfaces.

Only at one time in the year do any members of the termite colony become visible voluntarily, namely at the swarming period, which usually occurs in the spring or fall and always in warm weather. This phenomenon corresponds to the periodic swarming of bees, and there is a similar period in the life cycle of most of the true ants. At this time the termite colony is normally a colony of blind neutrals which suddenly develops castes which are complete with eyes, wings and sexual organs, and strangely enough, these castes open a passage to the outside and emerge to flutter feebly for a short distance with the wind. It is this winged caste which is sometimes spoken of as "flying ants." They are the only means of forming new colonies, as the main colony will usually remain in one location as long as the food supply is sufficient, although they will travel a hundred yards or more to reach food, and may even move the colony to be near a new food supply.

So much for the picture, but what are we going to do about it, and how? First we should study all available data on the subject in order to inform ourselves and be able to advise others. Then we should put into practice, in our own work, the methods of prevention and cure which have been found effective by trained investigators. Also we should assist the building departments of the various cities in broadcasting information and advice, and should see that the building codes of the cities contain recommendations on the subject and, if possible, rules to prevent poor construction. Some of the basic recommendations made by scientific and by practical investigators

are as follows, and as they require only a small additional cost when the building is constructed, and may save an enormous expense for repairs if omitted, it seems that any architect who fails to profit by the experience of others and who fails to observe these suggestions is not fair to himself or his client.

In new construction, no stumps or logs should be left under or near the building and no form lumber or stakes should be left in the ground. All scraps of lumber and shavings should be removed from under the building, and a final inspection made after the last sub-contractor has left. Termites are attracted to all such debris and after that is consumed they will naturally attack the nearest wood in the building..

In buildings with basements it is unwise to use untreated wood posts unless they have iron base plates above floor. In no case should old lumber be allowed to accumulate in a basement without careful periodic examination.

No untreated timbers should be placed in contact with the earth, nor within twelve inches of it, and even at that distance they should be well ventilated and set on good cement foundations.

No built-up or spliced members should be used in the first story construction unless well above grade, and the ends of joists resting in masonry should not be built-in without ventilation.

As much light and ventilation as possible should be given under the building and special attention should be given to ventilation at the external corners to avoid "dead spots."

Earth filled terraces near house walls should be avoided unless the wood framing can be entirely cut off from all contact by metal or rich cement.

Wood sleepers, wood floors, and wood partition plates should not be used on concrete slabs resting on earth, unless the wood is treated.

Only cement mortar should be used for foundation walls and piers and these should be capped with metal shields or with rich cement at least one inch thick. In locations known to be infested the metal shields should be placed on all pipes as well as on all masonry supports.

If stucco is used on the exterior of masonry walls care should be taken that a perfect bond be formed between the stucco and the wall with no crevices to form passages for the termites.

The use of coal-tar is recommended for use in filling all cracks in masonry or concrete and for spreading on the earth at the point of contact with masonry.

In the case of repair or replacement work, the above suggestions will apply according to the particular problem. If termite attack has begun all infested wood should be removed and burned, then the wood frame should be completely isolated from the earth, and only treated lumber used for replacement. Any termites left in the building will die if contact with the earth is prevented. If "flying ants" are observed it is a sure sign that there are one or more termite colonies near at hand and immediate action is recommended.

Both in new construction and in repair work it is a wise precaution to break up the ground under the building and sprinkle it thoroughly with a ten per cent solution of sodium arsenite, but care should be exercised and this solution be used only as recommended by the government bulletins.

Fungi take many forms, some of which are beautiful and almost startling in form and color, such as the tree fungi and the "dutchman's pipe," the "toad-stools" and other ground forms which often have the most vivid coloration. Then there are the edible forms, the mushrooms, which are not so beautiful nor as fantastic. The species which are destructive to wood, however, are not edible and are not at all beautiful, in fact they are generally almost invisible and when seen are almost repulsive. These forms are the cause of the condition in wood known as "dry-rot," a condition in which the wood takes on a dry, crumbly appearance and first breaks up into "cubes," then disintegrates entirely.

Decay in wood is never due to a "spontaneous oxidation process," or to "action of the elements," but is always the result of

the breaking down action of fungus growths, and while the condition is often called "dry-rot" this cannot be brought about without a certain amount of moisture. Fungi, being plants, although of a low order, require for growth four things, namely:—(a) An abundant food supply, (b) favorable temperatures, (c) sufficient oxygen, and (d) sufficient moisture. For food, wood of any variety is sufficient. Temperatures such as prevail in the United States are satisfactory except perhaps in the northern parts during the winter. Oxygen is usually available in any building construction. Moisture, while probably the most important necessity for growth, is luckily the easiest condition to control in a building. Fungi will not live in wood which is completely submerged in water, nor will it live if the wood is "bone-dry." However there are degrees of moisture lying between these extremes which are often found in buildings.

Moisture may originate in a leaky water or steam pipe, or from a refrigerator, or from a broken rain water conductor, or it may come from condensation due to lack of ventilation or where wood is in contact with masonry or concrete slabs. Many architects have had experiences with decay of wood floors laid on sleepers even where the construction is several stories above ground, and perhaps have found that dampness was caused by the presence of steam pipes or water pipes which caused condensation.

Fungi plants are propagated from spores produced on the fruiting bodies, or from secondary spores emanating from the thread-like roots, or from contact. The life history of a plant is briefly thus: — The spores, which are invisible to the naked eye, germinate, much as any seed does, after contact is made with wood containing the proper amount of moisture. Tiny threads, corresponding to roots then grow and branch out, penetrating the wood tissue by dissolving their way through the cell walls and cells. Soon the wood becomes networked with these threads and begins to soften and decay. After decay has progressed for some time a fruiting body, or flower, appears on the outside of the timber, but attention is called to the fact that this fruiting body does not appear until the fungus has done most of its damage, and the roots may have progressed in the wood far beyond the point at which the fruiting body appears. It is this fact which makes it practically impossible to remove all infected lumber from a building in which the fungus has made much progress. Fungus plants do not need to have contact with the earth, although they do sometimes have stalks as large as a man's arm running up into vine-like growth hundreds of square feet in area, concealed within floor construction and in walls. After growth has commenced the plant seems to attract to itself moisture out of the air sufficient to maintain life.

As wood destroying fungi are found almost everywhere it is only fair to suppose that practically every piece of lumber is exposed to the possibility of infection at some time between the time it is cut from the log until it is used in the building. The spores seem capable of remaining alive almost indefinitely if kept in a dry condition, and of starting to germinate as soon as conditions are favorable, therefore it seems only to be necessary that we prevent the possibility of suitable growing conditions, in order to prevent damage from fungi. Many of us have used lumber all of our lives and many of us live and practice in parts of the country where forest products are one of our largest industries. Most of us wish to continue to use lumber and with proper precautions there is no reason why we should not do so.

In new construction all lumber used should be dry when set unless it is in a position where it will be dried by the air. No untreated lumber should be allowed to come in contact with the earth, or with walls which are liable to remain damp. Ventilation should be adequate on all sides and ends of wood members especially at the lower side of sills and wall plates resting on masonry. Untreated lumber should not be used for wood sleepers, nor for the flooring placed on them, nor for furring on masonry walls. Sash and doors, especially on the north side of a building, should be carefully primed all over with paint or some

other protective material, before they are glazed and on the edges after they are fitted.

In the case of repairs, it is especially recommended that all infected wood be carefully removed and burned; that if possible all wood be removed for several feet, beyond where the infection is visible. Also it is a wise precaution to inject some antiseptic solution into all spaces in the walls or floors so as to cover the surface of the wood. No untreated wood should be used in replacement, as the spores are carried completely through the construction frame by every movement of air currents.

The term "Treated-Lumber" as used in this paper refers to lumber which has had a treatment of some chemical, or mixture of chemicals, with the intention of making it immune to attack by termites and fungi. There is no species of wood used for construction which is not subject to attack, although such woods as red cedar, cypress, redwood and dense yellow pine seem to be less liable than some of the others. All species of wood can be treated so as to be practically immune to attack and these treatments differ with the kind of wood and with the purpose for which the wood is to be used.

Preservation of wood has been the subject of a vast amount of laboratory and field investigation on the part of some of the best trained chemists and scientists in the whole world and a great deal has been published on the subject. Railroad and telegraph companies have spent long years and millions of dollars developing materials which will prolong the life of the wood used by them. We, however, are especially interested in the preservation of such wood as is used in framing and finishing our buildings, therefore methods, and in a way, materials do not concern us as much as the ability to get treated lumber when it is needed.

Treatment to be effective must penetrate the lumber completely, or else each sawcut or other break in the surface must be re-treated. Brushing or blowing on of a material rarely penetrates sufficiently to be effective, and is liable to leave ends or other untreated surfaces open for attack. Dipping has been recommended and is effective in many cases, if the work is carefully done, but unless it is done in a thorough way it is little better than brushing. All of these methods are liable to dry out or "leach" under ordinary conditions met in service. There may be dipping or other methods which have been perfected and in use in some parts of the United States, but the writer has not seen them nor can he get any definite information. The only positive method of treatment known, at least in the territory in which this is written, is that method known as pressure treatment.

Materials used for preserving wood are varied, the most common being coal-tar creosote, which is thoroughly effective, but wood treated with creosote cannot be painted and when used in a dwelling some objection may be raised because of the odor. Creosoted lumber will also leach through plaster or soft wood trim which comes in contact with it. The Department of Agriculture has worked out several formulae of which five per cent zinc chloride or three per cent sodium fluoride solutions seem to be the most available for general use. Several large manufacturers have perfected materials and methods of treatment which seem after tests of several years to be satisfactory for all purposes. In some sections it is possible to get lumber treated with a combination of zinc-meta-arsenite, which may be painted, sawed and worked as easily as untreated wood, and which has no odor after installation. Other manufacturers are prepared to make available for our use wood treated to serve every purpose and all that we have to do to encourage them is to use their materials where conditions warrant our doing so, and to be prepared to advise the general building public of the advantages of preventing damage from attack by termites and by fungi.

ENGINEERING

and

CONSTRUCTION

Featuring

First Completely Welded Brick and Steel

Dwelling

▼ ▲ ▼

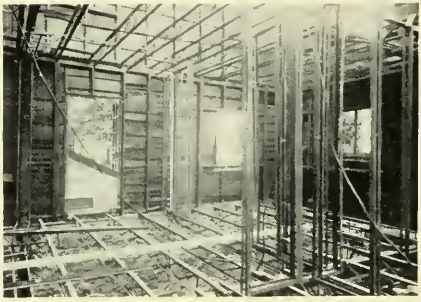
New California Law Limits

Use of the Term "Structural Engineer"

Welder at work making joint at foundations

Steel frame in place and part of the outer brick work in position

Steel frame on foundations in early stages of construction



Interior view, construction well along showing metal frame work and lining of walls

First floor steel frame in place and part of second floor frame work up

General View of the completed dwelling

PROGRESS PICTURES OF ELECTRICALLY WELDED STEEL FRAME AND BRICK RESIDENCE

A WELDED STEEL FRAME AND BRICK DWELLING HOUSE

WHAT is probably the first completely welded brick and steel dwelling constructed by electric arc welding was recently built for and is now being occupied by C. E. Anthony of Larchmont Gardens, New York. It is a six-room, two-story house, thirty-two by twenty-six feet, with full basement and a two-car basement garage.

The entire framework and all interior partitions were made up of standard size panel steel frames previously fabricated in the welding shop from one and one-half inch angles. They were made up of two duplicate frames tied together with spacers to provide the regular wall thickness of four inches throughout the house. Two sizes were used, the wall sections, in which there are no windows, being two by nine feet. The window sections are six by nine feet and of sufficient size to accommodate any window normally used in a dwelling house.

In erecting the walls and partitions, a plate sill six inches wide by one and one-quarter inch thick was laid directly on the stone and concrete foundation to take care of any roughness on the concrete, and fastened down by means of bolts grouted in the cement. The fabricated panels were then welded to the sill. Adjoining panels were welded together at their edges to make a solid structure throughout. The second floor was erected in exactly the same manner and was welded to the top of the first floor sections. Electric current for all field welding was generated by a General Electric gasoline engine-driven arc welding set.

An eight-inch I-beam was used for the main floor bearing beam. All floor joists, on both first and second floors, are of steel truss construction, eight inches deep, and welded to the frame of the house at each end and to the bearing beam or partitions in the middle. This type of floor beam was used because it provides rigidity without excess material. Steeltex, a two-inch wire mesh, spot-welded at each juncture and interwoven into fire-resisting, waterproof paper, is laid directly over the floor joists and covered with a two-inch course of concrete to make up the floor.

The roof supports, or rafters, are one-quarter-inch channels with two-foot spacing and are welded directly into the outside wall framework of the building. The gable sections were fabricated in the shop, trucked to the building site, hoisted into place and welded to the framework proper. The roof covering consists of Steeltex directly over the rafters and covered with a two-inch layer of Nailcret, a concrete asbestos composition of such characteristics that nails can be driven into it for laying shingles. A layer of slate shingles was used.

The exterior of the house is brick veneer. The gables and dormer are finished with stucco. All windows are of the steel casement type welded into the framework of the building. All doors are of sheet steel construction, set in steel bucks and frames welded into place.

The interior finish of the house consists of Steeltex over the framework, and hard plaster. In fastening the material in place, attachment bars, consisting of small rolled steel channel with wire fasteners spot-welded to it, were used. The channels are

NEW CALIFORNIA STATUTE LIMITS USE OF TERM "Structural Engineer"

TWO bills amending the act regulating the practice of civil engineering have been passed by the California Legislature. Assembly Bill No. 615, limits the use of the title, "structural engineer", and provides a method whereby civil engineers must qualify before using it.

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securely tack-welded to the steel framework.

The floors are covered with Armstrong inlaid linoleum with a felt backing on both the first and second floors. The stairways are steel with ornamental iron railings, welded in place, and have treads composed of a composition of plaster of paris, cement and sawdust. The baseboards are also made of this material. Each room is equipped with ornamental iron lighting fixtures, with General Electric wiring system throughout.

The interior and exterior appearance of the house is no different from that of any other similar house. The lower floor is laid out with a living room, dining room, kitchen and vestibule. The second floor has three bedrooms, a bathroom and ample closet space. In the basement, welded construction was also used in the installation of a welded oil burning furnace and a welded hot water heater.

Many advantages are claimed for the welded type of construction, among them being the following: rapidity and noiselessness of construction; use of standard panels; flexibility of design; fireproof construction, giving lower insurance rate; rigidity and solidity, eliminating vibration, low rate of depreciation and soundproof walls.

The other measure, Assembly Bill No. 616, defines the term civil engineer and amends various sections to clarify and strengthen the act. Both bills become effective August 14.

Here is the text of the bills as approved by the Governor:

Assembly Bill No. 615

Section 1. A new section is hereby added to chapter 801, statutes of 1929, to be numbered 1b, and to read as follows:

Section 1b. No person shall use the title "structural engineer" unless he is a registered civil engineer in this state and furthermore unless he has been found qualified as such structural engineer according to the rules and regulations established therefore by the board of registration for civil engineers. Anyone who violates the provisions of this section is guilty of a misdemeanor.

Assembly Bill No. 616

The people of the State of California do enact as follows:

Section 1. Section 1 of chapter 801, statutes of 1929, entitled "An act regulating the practice of civil engineering," is hereby amended to read as follows:

Section 1. In order to safeguard life, health, property, and public welfare, any person practicing, or offering to practice civil engineering in any of its branches in this state, shall hereafter be required to submit evidence that he is qualified so to practice, and shall be registered as hereinafter provided, and from and after twelve months after this act becomes effective, it shall be unlawful for any person to practice or offer to practice as a civil engineer in this state, unless such person has been duly registered or specifically exempted as required by the provisions of this act.

Section 2. A new section is hereby added to chapter 801, statutes of 1929, to be numbered 1a, and to read as follows:

Sec. 1a. The term "civil engineering" shall mean that branch of professional engineering which deals with any or all of the following studies, and/or activities: the economics of, the use and design of, materials of construction and the determination of their physical qualities; the supervision of the construction of engineering structures; the investigation of the laws, phenomena, and forces of nature; and appraisals and valuations; in connection with fixed works for any or all of the following divisions and/or subjects; irrigation, drainage, water power, water supply, flood control, inland waterways, harbors, municipal improvements, railroads, highways, tunnels, airports and airways, purification of water, sewerage, refuse disposal, foundations, framed and homogeneous structures, buildings and bridges.

Said term shall include city and regional planning in so far as any of the above features are concerned therein, and geodetic, cadastral, municipal and topographic surveying, but nothing in this act contained shall be construed to repeal, alter or modify that certain act entitled "An act to define the duties of and to license land surveyors, and to repeal an act entitled 'An act to define the duties of and to license land surveyors,' approved March 31, 1931," approved March 16, 1907.

The term "civil engineer" shall mean one who practices or offers to practice civil engineering in any of its branches.

The phrase "responsible charge of work" shall mean the control and direction of the investigation, design and construction of works involving some feature of civil engineering, and requiring initiative, skill, and independent judgment.

Sec. 3. Section 11 of chapter 801, statutes of 1929, is hereby amended to read as follows:

Sec. 11. The board shall, from time to time, examine the requirements for the registration of civil engineers in other states, territories and countries and shall record those in which, in the judgment of the board, standards not lower than those provided by this act, are maintained. The board is hereby empowered to arrange for reciprocal registration in this state of civil engineers from other states, territories or countries so recorded under terms mutually agreed upon. The board, upon the presentation to it by any person, of satisfactory evidence that such person holds an unexpired certificate of registration issued such person by proper authorities in any state, territory, or country, recorded as herein provided, which state, territory or country grants full and equal reciprocal registration rights and privileges to registrants of this board, shall, upon the payment of a fee of five dollars ($5) to be retained by the board, issue to such person a certificate of registration under this act.

Sec. 4. Section 12 of chapter 801, statutes of 1929, is hereby amended to read as follows:

Sec. 12. (a) It shall be the duty of the board to inquire into the identity of any person not registered as provided in this act and practicing as or claiming to be a civil engineer. The board shall have the power by a two-thirds (2-3) vote to suspend for a period not to exceed two years, or to revoke the certificate of any civil engineer registered hereunder who has been convicted of a felony or who has not a good character or who has been found guilty by the board of any deceit, misrepresentation, violation of contract, fraud or gross incompetency in his practice, or guilty of any fraud or deceit in obtaining his certificate.

(b) Proceedings for the suspension or revocation of certificate of registration shall be begun by filing with the secretary of the board written charges against the accused, such charges shall be in detail, and sworn to under oath by the complainant. The board shall designate a time and place for a hearing and shall notify the accused of this action and furnish him a copy of all charges at least thirty (30) days prior to the date of hearing. The accused shall have the right to appear personally or by counsel, to cross-examine witnesses or to produce witnesses in his defense. The board shall have the power to compel the attendance of witnesses and the production of necessary papers and documents.

The board may reissue a certificate or registration to any person whose certificate has been revoked; provided, two (2) or more members of the board vote in favor of such reissue for reasons the board may deem sufficient.

Sec. 5. Section 13 of chapter 801, statutes of 1929, is hereby amended to read as follows:

Sec. 13. (a) Any certificate issued under the provisions of this act shall remain in effect until the thirtieth (30th) day of June following the date of issuance.

(b) Every civil engineer registered under this act who desires to continue the practice of his profession beyond the thirtieth (30th) day of June following the date of issuance of his original

certificate shall on or before the thirtieth (30th) day of June of each year pay to the secretary of the board a fee of five dollars ($5) to be retained by the board, for which fee a renewal certificate of registration for the current year shall be issued. Certificates of registration which have expired for failure to pay renewal fee may be reinstated within one year under rules and regulations prescribed by the board. An unsuspended, unrevoked or unexpired certificate and endorsement of registry, made as provided in this act, shall be presumptive evidence in all courts and places that the person named therein is legally registered.

Sec. 6. Section 14 of chapter 801, statutes of 1929, is hereby amended to read as follows:

Sec. 14. Each registrant hereunder may, upon registration, obtain a seal of the design authorized by the board, bearing the registrant's name, number of certificate, and the legend "registered civil engineer." Plans, specifications, plats, reports and other documents issued by a registrant may be stamped with the said seal during the life of the registrant's certificate, but it shall be unlawful for anyone to stamp or seal any plans, specifications, plats, reports, or other documents with said seal after the certificate of the registrant named thereon has expired or has been suspended or revoked, unless said certificate shall have been renewed or reissued.

Sec. 7. Section 15 of chapter 801, statutes of 1929, is hereby amended to read as follows:

Sec. 15. Nothing in this act shall be construed as prohibiting a civil engineer from practicing or offering to practice his profession through the medium of or as employee of a partnership or a corporation, provided that the plans, specifications and reports of such partnership or corporation be signed and be stamped with the seal of each registered civil engineer in specific and responsible charge of the preparation of the same. The same exemptions shall apply to partnerships and corporations as apply to individuals under this act; provided, however, that nothing in this act shall be construed as requiring registration for the purpose of practicing or offering to practice civil engineering, by an individual, firm, partnership or corporation on or in connection with property owned or leased by said individual firm, partnership or corporation, unless the same involves the public health or safety or the health and safety of employees of said individual, firm, partnership or corporation; provided, however, no one shall represent himself as, or use the title of registered civil engineer, or any other title whereby such person could be considered as practicing or offering to practice civil engineering in any of its branches, unless he is qualified by registration under this act. Nothing in this act shall be construed as in any way repealing or abrogating any provision of that certain act entitled "An act to regulate the practice of architecture," approved March 23, 1901, as amended, or in any way repealing or abrogating any amendments to said act.

Sec. 8. Section 16 of chapter 801, statutes of 1929, is hereby amended to read as follows:

Sec. 16. The following shall be exempt from the provisions of this act:

(a) Officers and employees of the United States of America practicing solely as such officers or employees.

(b) A subordinate to a civil engineer registered under this act or a subordinate to a civil engineer exempted under this act, in so far as he is acting in such capacity.

(c) Any architect registered in this state under the provisions of any act to regulate the practice of architecture, in so far as he practices architecture, in its various branches.

(d) Any person, firm or persons, or corporation furnishing, either alone or with sub-contractors, labor and materials (with or without plans, drawings, specifications, instruments of service or other data covering such labor and materials), for store fronts, interior alterations or additions, fixtures, cabinet work, furniture or other appliances or equipment, or for any work necessary to provide for their installation, or for any alterations or additions to any building necessary to or attendant upon the installation of such store fronts, interior alterations or additions, fixtures, cabinet work, furniture, appliances or equipment.

(e) Any person not a resident of the State of California, qualified as a civil engineer, offering to practice but not practicing civil engineering in this state who does not have or maintain a regular place of business in this state.

(f) Any person practicing civil engineering in this state who does not maintain a regular place of business in this state and who does not practice for more than sixty days in any one calendar year, providing that such person shall be qualified as a civil engineer and shall, before engaging in such practice, notify the board in writing of his intention so to do, stating in said notice the approximate date when he intends to commence such practice and the approximate length of time

he expects to continue in such practice. In which event the secretary of the board, after having determined that the applicant is qualified, and after the payment by the applicant of a fee of ten dollars ($10) is hereby empowered to issue a temporary license to practice for a period of not to exceed sixty (60) days.

(g) Any person, firm or corporation holding a license as real estate broker or real estate salesman, when making appraisals and valuations of real estate properties, while engaged in the business or acting in the capacity of a real estate broker or a real estate salesman, within the meaning of the California real estate act.

Sec. 9. Section 17 of chapter 801, statutes of 1929, is hereby amended to read as follows:

Sec. 17. (a) Any person, who is not legally authorized to practice civil engineering in this state according to the provisions of this act and shall so practice, or offer to practice except he be exempt under this act, and any person presenting or attempting to file as his own the certificate of registration of another, or who shall give false evidence of any kind to the board, or to any member thereof, in obtaining a certificate of registration, or who shall falsely impersonate or use the seal of any other practitioner, of like or different name, or who shall use an expired or revoked certificate of registration, shall be deemed guilty of a misdemeanor and shall for each such offense of which he is convicted be punished by a fine of not more than five hundred dollars ($500) or by imprisonment not to exceed three months, or by both fine and imprisonment.

(b) It shall be the duty of the respective officers charged with the enforcement of laws and ordinances to prosecute all persons charged with the violation of any of the provisions of this act. It shall be the duty of the secretary of the board, under the direction of the board, to aid such officers in the enforcement of this act.

THE FREEWAY

[Concluded from Page 62]

automobile parking would be allowed) occupying the central part, while on either side twenty-foot strips of parkway, planted with trees, ground covers, shrubs, and hedges would be adequate for a landscape composition of varied interest.

Advantages to the Public

1. Such Freeways, compared with existing highways, would accommodate far greater volume of traffic because, with comparatively few cross streets, the time element of travel would be reduced. A great *economic* advantage.

2. The pleasure of driving on such Freeways with planted borders, in comparison with the lack of pleasure in seeing mile after mile of undeveloped business frontage, shacks, and billboards, would certainly be a great *recreational* advantage.

3. Although carrying a greater volume of travel at maximum speed, the Freeway, having fewer intersecting streets, which constitute potential danger points, would become the safer street and thereby have an advantage expressed in terms of conserving human life.

Advantages to Subdividers of Property

While Freeways would deny the right of access and egress to abutting property owners, and would appear to cause an economic loss of street frontage values, let us analyze and appraise the great advantages to subdividers of regional tracts.

1. The Freeway, being primarily for through travel, would be acquired and built by public funds. *The abutting property owner would not be forced to pay, as at present, an unjust proportion of the cost of arterial highways.*

2. The Freeway, with landscape planting on either side of the street pavement, would be an attractive roadway into and through suburban and regional areas, while the occasional cross streets would make accessible the surrounding property for subdivision purposes. *Every subdivision should have an attractive approach to, and entrance into, a property to be developed as a community of homes.*

3. There being no business lots bordering the Freeway, the subdividers, by intelligent subdivision plans, incorporating compact business centers as logical focal factors in residential tracts, would create *real* instead of *fictitious* values in business lots. *The location, shape, and extent of business, as related to residential areas, are of the utmost importance in successful subdivision planning. .*

The ARCHITECT'S VIEWPOINT

¶ *Northern Architects Get Together*
¶ *Anent Uncle Sam's Architectural Business*
¶ *Building Congress Movement Growing Rapidly*

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THE Washington and the Oregon Chapters of the American Institute of Architects had the first joint meeting of their histories on June 20th, at the Hotel Olympian in Washington's capitol city, Olympia. What inspired the idea of the joint meeting, in the brain of President Roland Borhek, of the Washington Chapter, is not known. It may have been the situation architectural or the condition financial that made such a meeting of the two state Chapters of architects seem desirable. However, it was agreed by those present that the affair was not only significant, but very enjoyable.

In these times of depression in business we should occupy ourselves, whenever possible, in planning out a program for the future that will make for more satisfactory conditions.

The subject which was most discussed at Olympia was "The Government in the Architectural Business," a subject worthy of the time given it. Unfortunately, what was done about this at the meeting cannot be disclosed at the present time.

I had hoped to write something for this column just for once, without becoming vitriolic. However, when one reflects on some of the architecture created by many of the Government agencies, which draw their own plans, Oh! may Aimee McPherson save us.

An ex-army General said recently that the buildings designed by the Quartermaster department architects, in many instances were sad affairs. They were alike, whether constructed in Alaska or Panama, in Jefferson Barracks, Missouri, or Vancouver Barracks, Washington. Everyone has seen these stiff, stilted sentinels that face out on the parade ground, with the nearby officers' quarters to match. How can they be practical and be so unbeautiful?

The Supervising Architect's Office has designed many fine buildings—good classic examples for good average taste. But why not build in pace with the times? Classic cornices are not now in vogue, nor collonades necessary to produce a dignified design.

Why should the postoffice for Corvallis, Oregon, be of the identical design as that of Santa Ana, California, or of that of Kalamazoo, Michigan, with variety only in the cartouches, swags, and disposition of the balconies? The men in the Supervising Architect's Office in Washington should not have to send out for a picture postal of a palm tree in Florida in order that they may acquire the atmosphere proper for that southern state.

The Government should, in all its construction, build buildings that would set the mark for private builders to strive for, but this cannot be unless the "system" is changed. Why not change soon?

THE Building Congress movement is growing rapidly. Requests for information concerning the formation and workings of such an organization are received almost every week by the Oregon Building Congress from new localities interested. In almost every city in the country, each branch of the building industry is now organized in some way or other. It is possible only, however, with a Congress or similar organization, that all branches are brought together for the general improvement of the industry. The Oregon Congress is one of the pioneer organizations of this nature, and has proved to be a most valuable force in binding the various elements of the building business together.

There is a board of directors which meets each week at a luncheon meeting. These directors are representatives of each branch and trade in building, appointed by the respective groups to serve for them on the board. Once a month there is an open forum where anyone interested, whether a member or not, can attend and have his say.

Through the efforts of the Oregon Congress, an Apprentice School was formed in Portland, which has been operating for several years. This school is supported by the school district, the state, and the federal government, the work coming under provisions for vocational education. Each year a good sized class of apprentices is graduated in practically all of the building trades. When they have served their indentures, and finished their courses at the school, these young men are thoroughly trained artisans.

One of the most significant things undertaken by this Congress is the periodic awarding of certificates of merit to mechanics, for superior craftsmanship. The Congress interests itself in anything concerning or involving the industry, and takes any necessary action thereupon. As a Building Congress continues in its work, new possibilities are constantly unfolded. The whole thing is truly a worth while enterprise.

* * *

WHEN this writer was last jolted into action by the Editor with his startling telegram "Where is your copy? Balance of edition ready for press," the idea of an Architects' Clinic was only theory. With the Oregon Chapter, A.I.A., it is now a fact. Their first clinic was held at the last regular meeting and was only terminated by a vigorous beating of the gavel on the block, with a call for an adjourning motion. The hour was becoming late. It is not possible to settle all building problems at one session, so why try? However, it was discovered that the men need no prompting at an Architectural Clinic.

The value of such a meeting is very evident to those present. A Clinic is the place to learn about the new materials. A brother architect relates, with a tear in his eye, how the plaster came off of such and such plaster base, in spite of the manufacturer's guarantee. We hear how the lime burned through the wall coater in striking contradiction to the statement on the can. Another relates the sad narrative of how the wood floor sleepers placed in the concrete were completely incapacitated by dry rot, when the building was but five years old. This architect states that the owner will never forgive him for this failure, and that his ex-client feels that perhaps one is just as insecure with any architect. He feels that they are liable to do something to his detriment. The Clinic will become a real force in the education of the architect.

The Air-Mail is due to leave.

Portland, Oregon. HAROLD W. DOTY, A. I. A.

WASHINGTON AND OREGON STATE CHAPTERS HOLD JOINT MEETING

THE first joint session of the Washington State and Oregon Chapters, A. I. A., was held at Olympia, Washington, June 20th. The following account of the meeting was prepared by Charles H. Alden for the Washington Chapter's monthly Bulletin, Mr. Alden kindly furnishing THE ARCHITECT AND ENGINEER with advance proofs of his report:

The June meeting of the Chapter was a notable one being for the first time a joint meeting of the Washington State and Oregon Chapters, and while not strictly a "Regional Convention" in the parlance of the Institute, was regional to the extent of comprising the entire Pacific Northwest, which with Alaska and the Pacific possessions a part of the territory of the Washington State Chapter, includes an area of not far from a million square miles.

Following the schedule promulgated in the program the members of the two Chapters and guests, assembled at the Olympian Hotel, Olympia, Washington, early in the afternoon of Saturday, June 20. Under the guidance of the Chamber of Commerce a trip was made to the State Capitol grounds where the early part of the afternoon was spent in inspecting this notable monumental group. A cordial reception was given to the visitors by the Governor who personally conducted them to points of notable interest.

Returning to the Olympian Hotel the business meeting was called to order by President Borhek of the Washington State Chapter at 3:30 P. M. President Borhek spoke of the significance of the occasion, expressing a hope that this would be followed by other meetings of the two Pacific Northwest Chapters. He complimented the *Pacific Builder and Engineer* on the interest they had shown and assistance given toward making the meeting a success.

President Doty of the Oregon Chapter was then called upon and asked to tell of some of the experiences and activities of his Chapter. Mr. Doty, after expressing gratification in behalf of his fellow Oregonians for this co-operative opportunity, mentioned as one Chapter activity the establishment of a "clinic" which had been instituted in the interests of better practical architectural procedure, and particularly to assist the newer practitioners by discussing practical building problems. This "clinic" idea was heartily commended by others who were asked to express their opinions.

Passing to other subjects which had been mentioned for consideration, Dean Ellis Lawrence of Portland was called upon and mentioned among other things the Building Congress with which he had been actively identified. He believed that this organization, national in scope, and comprising all elements of the building industry was well equipped to exert a forceful influence on all matters connected with building. He spoke particularly of the apprenticeship system as a notable feature of the Oregon Congress. To present another point of view Mr. Fred S. Cook of the McCracken-Ripley Company of Portland, dealers in building material, was called upon and expressed his belief in the value of the Congress idea and spoke particularly of its Board of Reference which he thought would be valuable in adjusting differences of opinion among different elements in a construction enterprise. Mr. Doty added to the discussion of this subject by giving an account of a meeting of the Oregon Building Congress with our national Senators and Representatives.

Education was another topic associated with Mr. Lawrence for in addition to being Dean of the College of Fine Arts, University of Oregon, and member of the Institute Committee on Education, he is now the President of the Association of Collegiate Schools of Architecture. This As-

sociation was reported by Dean Lawrence to be now working in harmony with the Institute Committee on Education. Of the Government building activities Mr. Lawrence spoke on the efforts of the Institute to establish a Federal Department of Public Works which, if properly organized and conducted, should secure better architectural procedure on the part of the Government. In the discussion which followed on the subject of governmental architecture, Mr. Loveless suggested that it might be beneficial to have a Government building, planned and built under the established system, investigated and deficiencies reported.

After some reference to financing, which occasioned no definite constructive suggestions for improvement, President Borhek introduced the subject which had been given particular attention by the Washington State Chapter, the movement to get the Government out of the architectural business. After referring to a list of Government buildings of which the construction had been authorized, he read a proposal from the Washington State Chapter that the various other Chapters of the Institute be urged to co-operate and advance the movement to get the Government out of architectural work, in line with the fundamental proposals of the Institute Committee. This proposition was adopted by the Oregon Chapter; then by the Washington State Chapter and finally by the two Chapters in joint session. After some discussion it was voted to withhold outside publicity on this matter for the present as activity so far advocated was primarily within the Institute.

As the hour for the dinner was rapidly approaching adjournment was made at this time, the party gathering for a group picture in the park in front of the hotel and the interim further enlivened by effective provision made by the Entertainment Committee to promote the cordiality of the occasion. A bountiful dinner was provided by the hotel and regrets for inability to be present were received from some invited guests. Governor Hartley and Director of Licenses Maybury, on account of previous engagements, and Mayor Mills on account of illness. Mr. Maybury appeared in person prior to the dinner to pay his respects.

At the conclusion of the dinner President Borhek said a few words appropriate to the occasion and called upon Mr. W. J. Howard, representing the Pacific Northwest Brick and Tile Association, to present the Clay Products Trophy offered by his Association to the winner of the Washington State Chapter Golf Tournament. Mr. Howard, in an appropriate speech, said that as the Chapter members, unlike the members of his Association, could not compete in the conduct of their business, his Association was glad to give them this opportunity to compete in another form of activity. J. Lister Holmes proved to be the recipient of the Clay Products Trophy for the past year and he, and the runner-up, Victor Jones, were each presented with additional prizes in behalf of the Chapter.

A guest from the city of Olympia was next introduced, Mr. Elbert M. Chandler, President of the Olympia Planning Commission. Mr. Chandler spoke of the efforts being made, and the desire to make Olympia distinguished as a Capitol city. A notable city planning feature was the new Pacific Highway which was to be changed in location and the Capitol grounds extended to meet it. To avoid traffic interference, the Highway would pass under the present Capitol Boulevard now running east and west. Tumwater Slough, a conspicuous feature of the city, it was proposed to have dredged and parked. A new zoning ordinance regulating use, height and area had been prepared by the Planning Commission and was about ready of enactment. Olympia needed legislature provision to properly establish zoning powers, the right to enforce regulations not now extending beyond cities of the first class; an adequate enabling act to remedy this condition failing to pass the last session of the legislature. A notable feature of the Olympia City Plan now in effect was architectural control of the buildings on a portion of the Pacific Highway, this having been secured through consent of the property owners.

President Borhek thanked Mr. Chandler for his interesting speech and expressed appreciation of his efforts to direct the growth of the Capitol city in an orderly and worthy manner and spoke of the value of such efforts in the smaller city as possibly more effective than in larger communities where more conflicting and complex interests were involved. Mr. Wohleb was next introduced as our only local Institute member. The stage was then set for the concluding feature of the program, a moving picture of the Washington State Chapter delegates' excursion to the Institute Convention. This feature was effectively presented with descriptions by Lister Holmes.

SEALEX VELTONE AS WALL-COVERING

The hundreds of visitors who attended the first day of Congoleum-Nairn's exhibit of new patterns for the fall season at their New York show rooms saw a demonstration of the use of a new wall-covering material perfected by the research department of the company. The material is being offered in special colors particularly appropriate for wall decoration.

COMBINATION KITCHEN AND DINETTE

One exhibit is a full-sized de luxe modern bathroom. The walls are covered with the new Sealex Veltone in an artistic jade-green coloring. The black veltone linoleum floor contributes to the smart modernistic atmosphere and makes a rich contrast with the chromium fittings and the delicate greens of the walls and fixtures.

Speaking of the material a representative of the Congoleum-Nairn Company said:

"Undoubtedly, architects, builders and home owners will welcome this new type of wall covering. It is exactly what they have been looking for to harmonize with modern colored bathroom equipment—an inexpensive solution of a difficult problem. Interior decorators, too, will see in this new medium for wall decoration a fine opportunity to create original effects.

"But this room has more than novelty and distinction to recommend it. Its walls—one complete expanse of harmonious color from floor to ceiling — have practical advantages not found in any other wall covering. Sealex Veltone is easily applied over plaster or other bases. It makes what is virtually a one-piece wall, which will not crack, bulge or loosen. It is claimed that an entire wall surface may be covered with this material at less cost than tiling to a height of three feet. Installation presents no difficulties to any competent mechanic.

"Unquestionably this new wall material will be widely used in the remodeling of old rooms, as well as in new homes. It may be applied directly over old cracked walls without the elaborate and costly preparatory work necessary when ceramic tiles are used.

"Practically seamless, a wall of Sealex Veltone is 100% sanitary from floor to ceiling — waterproof, soil-proof and easy to clean. Its superiority to typical half tile and half plaster or paper bath-

DE LUXE BATHROOM WITH WALLS OF SEALEX VELTONE

room walls is obvious. It presents one cleaning surface from floor to ceiling. Thus it is a great time and labor saver. In the model bathroom, cleaning is simplified still further by the rounded wall corners and sanitary cove base. Methods for installing these features have been perfected by Congoleum-Nairn, Inc.

"Still another advantage of Sealex Veltone walls are their insulating and sound-absorbing qualities. It seems likely that this new type of wall covering will considerably reduce bathroom noises."

The second model room in the Congoleum-Nairn showrooms is a combination kitchen and dinette (with clever folding table) a room which a family of moderate income could easily afford. The walls are covered from floor to ceiling with a Sealex Veltone in richly tinted golden onyx. Although the floor space is comparatively restricted, the Sealex linoleum design chosen for the floor has very large-sized tiles in apple green, jade, and rose tan, set off with a black marbelized border and red border strip—an unusual touch which adds a great deal of character to the interior.

FOUNDATION TESTS

Several special research committees of the Founder Societies which the Engineering Foundation has been aiding, report progress in spite of the depression. Among them is the Committee on Earths and Foundations, of which Lazarus White is chairman.

Dollars and safety, it is pointed out, can be conserved for private and public owners of structures by obtaining for engineers and architects more and better knowledge than now exists of the many kinds of stuff which constitute the outer part of the earth crust. Cost, feasibility and security of foundation, excavations and embankments of all kinds are affected.

"Research at Massachusetts Institute of Technology by Prof. Glennon Gilboy is indicating that pile foundations often are so used as to be either a partial or an entire waste—in instances a detriment," says a report by Chairman White to Secretary George T. Seabury of the American Society of Civil Engineers.

"Methods of taking and testing 'undisturbed' samples of all kinds of alluvial deposits are being developed; also interpretation of the results so as to predict both rate and total of settlement of structures. Tests are being made near Boston and on the Pacific Coast. Proper use and spacing of piles and the behavior of earth beneath spread footings are being investigated, with the hope of achieving large economies.

HIGHER AND HIGHER

Skyscrapers of the future will be considerably higher, occupying a larger ground area and spaced much more widely, says George S. Chappell, architect, New York City.

"The reasons which may limit the height of buildings are not primarily structural or architectural, as I believe elevator engineers will be able to cope with buildings possibly 150 or 200 stories high. The limit may be set by the height at which we can live in comfort and the effect of high buildings from the esthetic point of view. If the perspective from the street level is carried on, the effect may not be a happy one.

"I think we will probably see larger buildings, year by year. A variation in color, even between red and gray buildings, year by year, is reduced to almost nothing. As time goes on buildings gather a deposit of dust which results in different tones which are exceeding beautiful."

100 CAR REDWOOD TRAIN

Indicating that such a thing as severe depression does not exist in Northern California, the great Redwood lumber mills of Humboldt, Mendocino and Del Norte counties under high pressure to fill orders, on July 1 shipped a consignment of redwood lumber, the largest in the history of the industry, across the continent on a single train of 100 cars.

Necessity for it developed with an influx of orders for carload and half carload lots.

As the orders continued piling up, the heads of the several large Redwood manufacturing companies conceived the idea of lumping them together and shipping them east in a single trainload.

CARL A. WOLFE

Carl A. Wolfe, age 43, associated with W. E. Higgins, architect, Realty Building, San Jose, died July 3, following an operation for appendicitis. Wolfe had been ill for only one week. He had practiced his profession in Santa Clara County for the past twenty years and was one of the first to adopt the Frank Lloyd Wright wide cornice for residence work in its popular days.

BOOK REVIEWS

By Edgar A. Kierulff

SPANISH COLONIAL OR ADOBE ARCHITECTURE OF CALIFORNIA (1800 to 1850), by Donald R. Hannaford and Revel Edwards. Published by the Architectural Book Publishing Co., 108 West 46th St., New York City. Price $7.50.

To the lovers of historical California, this book should make an appeal. It illustrates the early houses and ranch houses in the Golden State. With the exception of a short foreword and introduction, both admirably written, the whole book consists of very fine views (photographs) of a large number of old California houses, ranch houses and out-buildings, many of them still in a splendid state of preservation. The writer has taken the keenest interest in reviewing this book, recognizing many old familiar spots, and it is with delight that he passes on this little review in the hope that other Californians will avail themselves of the opportunity to add it to their libraries.

LUMBER AND ITS USES, by Royal S. Kellogg. Published by The Scientific Book Corp., 15 East 26th St., New York City. This book may be ordered through THE ARCHITECT AND ENGINEER, INC., 1662 Russ Building, San Francisco. Price $4.00.

This book sums up in a most intelligent and comprehensive manner the results of twenty-five years of lumber research, both by government, associations and private means. There are to be found in its 378 pages, every practical problem in the lumber industry from forester to carpenter, the architect and the contractor. To list all the chapters would require more space than can be allowed, but the reviewer can truly state that the perusal of the Table of Contents alone is inspiring.

PRINCIPLES OF CITY PLANNING by Karl B. Lohman (Professor of Landscape Architecture, University of Illinois). Published by McGraw-Hill Book Co., Inc., 370-7th Ave., New York City. Price $4.00.

A very able book on city planning, embracing in its twenty-three chapters the major and important phases in this particular branch of architecture. The volume is well illustrated and contains, besides photographs, maps and plans, a conclusion, summing up the ideas on ideal planning treated in the book proper. A bibliography and index completes the whole.

The Medusa Portland Cement Company, 1002 Engineers Building, Cleveland, Ohio, will send a circular, A. I. A. File 3a2, upon request, descriptive of Medusa Stoneset Cement, a product specially produced by the Medusa Company for the setting of art stone. They have also issued a booklet on "How to Make Good Waterproofed Cement," A. I. A. File 4 (concrete). It is a very excellent pamphlet on an important subject.

The C. A. Dunham Company, 450 East Ohio Street, Chicago, has recently issued a new booklet entitled, "Cool Steam" dealing with differential heating. It is presented in a very clear and concise manner sure to appeal to the architect, engineer and heating specialist. The cover of this booklet is most interesting being of suede paper with a feel similar to that of leather.

RECENT TRADE LITERATURE

The Universal Atlas Handbook of Concrete Construction is a complete treatise on concrete and its structural uses. This pamphlet should be most acceptable to contractors, engineers and detail and specification writers. It may be obtained from the Universal Atlas Cement Company, 208 South La Salle Street, Chicago.

A data sheet issued by Yeomans Brothers Company of 1433 Dayton Street, Chicago, deals with building water supplies and centrifugal pumps, A. I. A. File 29d5. This sheet may be had upon request from Russell T. Gray, Inc., 205 Wacker Drive, Chicago.

Two booklets, one entitled, "Salem Roofs" and the other "Insulating Board", have been published by the Johns-Manville Corporation, 292 Madison Avenue, New York City. Both are well written and illustrative of two important products of this company.

A PLEA FOR GOOD ARCHITECTURE

A doctor buries his mistakes; an architect's mistakes live on forever.

WITH the ARCHITECTS

OAKLAND STORES

Plans have been completed by Charles W. McCall, architect, of Oakland, for eight modern stores to be built at 14th and Webster Streets, Oakland, for Mrs. A. F. Merriam. The building will have a modern front of monel metal, terra cotta and plate glass and will cost approximately $22,000.

OAKLAND APARTMENTS

Thomas J. Keenan, Oakland, has prepared plans for a Class A apartment building to be erected on East 23rd Street, near 9th Avenue, Oakland, at a cost of $250,000. There will be fifty, two and three room suites. L. J. Newton will be construction manager.

NAPA FEDERAL BUILDING

A site has been secured on the east side of Second Street, between Randolph and Franklin Streets, Napa, for the new Post Office Building, and plans for the $140,000 structure are being prepared in the office of the Supervising Architect, Washington, D. C.

ALAMEDA FACTORY

The voters of Alameda have sanctioned the rezoning of a block of land in the residence section of the city, permitting construction of a $250,000 factory by the Owens-Illinois Glass Company. Plans are being prepared by Albert Kahn, architect of Detroit, Michigan.

SAN FRANCISCO HEALTH CENTER

Plans have been completed by S. Heiman, architect, 605 Market Street, San Francisco, for a four-story, Class A health center at Grove and Polk Streets, San Francisco. Between $700,000 and $800,000 are available for the improvements.

FINE ARTS BUILDING

Plans are being prepared in the office of John Graham, Dexter-Horton Building, Seattle, for a Fine Arts building to be built on the campus of the University of Washington. The estimated cost is $450,000.

STATE HARBOR WORK

Considerable new work is being planned by the State Harbor Commission for the San Francisco waterfront. The drawings are being made in the office of Frank G. White, Chief Engineer, Ferry Building, San Francisco. The various improvements will include a two story reinforced concrete shop, storage and garage on Bryant Street to cost $150,000; a steel frame bulkhead building at the foot of Grant Avenue, and an extension to Pier 38, at the foot of First Street, estimated to cost $200,000.

POST OFFICE ADDITION

A $500,000 addition will be built this summer to the San Francisco Post Office Building at 7th and Mission Streets, from plans by George W. Kelham. In the same office plans are being completed for a new gymnasium at the University of California, Berkeley, and for two gymnasium buildings for the University of California at Los Angeles.

Y. W. C. A. HOTEL

Julia Morgan, architect, Merchants Exchange Building, San Francisco, has completed plans for a seven story, Class C girls' hotel for the Y. W. C. A. The building will be located on the east side of Powell Street, south of Clay, San Francisco, and a contract has been awarded to the K. E. Parker Company for the entire work.

RECTORY, CHAPEL AND AUDITORIUM

Plans are being prepared in the office of Henry Carlton Newton and Robert Dennis Murray, Architects' Building, Los Angeles, for a rectory, chapel and auditorium to be built in West Los Angeles for St. Paul the Apostle Parish. More than $500,000 will be expended on the project.

PAROCHIAL SCHOOL

Plans have been completed by Arnold S. Constable, 580 Market Street, San Francisco, for a $40,000 parochial school to be built on Milvia Street, near Berryman, Berkeley, for St. Mary's Magdalene Parish.

OPEN SAN FRANCISCO OFFICE

Walker & Eisen, Ltd., and C. A. Balch, associated architects, 1117 Western Pacific Building, Los Angeles, have opened offices at 580 Market Street, San Francisco, under the management of J. E. Costello. Work in connection with new United Artists theaters to be erected at Palo Alto, Berkeley, San Jose, Vallejo, Richmond, Oakland and San Francisco is being handled from the San Francisco office.

GRANTED PROVISIONAL CERTIFICATES

California State Board of Architectural Examiners issued provisional certificates to practice architecture, on May 26, to the following: Charles Lyman Haynes, 2075 E. Third Street, Long Beach; Kenneth Messenger, 4152 Orange Avenue, San Diego; John James Landon, 178 N. Alexandria Avenue, Los Angeles; Glenn Evermont Miller, 154 Artesia Avenue, Long Beach.

25 YEARS DRAWING PLANS

The architectural firm of Frederick Heath, George Gove and Herbert A. Bell of Tacoma, Washington, celebrated its twentieth anniversary May 29th by giving a luncheon to its staff and friends. During the last quarter century the firm has designed more than five hundred buildings for as many as three hundred clients.

CATHOLIC ORPHANAGE

The Sisters of Mercy are to have a new orphanage in Sacramento to take the place of St. Patrick's and St. Vincent's orphanages of Grass Valley. Plans for a building to accommodate one hundred children are being prepared by Harry J. Devine, architect, California State Life Building, Sacramento.

AUTOMOBILE SALES BUILDING

A contract has been awarded in Los Angeles for the construction of a five story Class A automobile sales and service building on the northwest corner of Wilshire Boulevard and Maraposa Avenue, for the Auburn Fuller Company. Albert C. Martin is the architect.

OAKLAND RESIDENCE

A two story stucco dwelling will be built on Glenbrook Drive, Oakland, for Roy C. Hackley, 2514 Buena Vista Avenue, Oakland, from plans by Masten & Hurd, architects, 210 Post Street, San Francisco.

NEW YORK'S SKYSCRAPERS

"Among the many new buildings in New York City, the most outstanding and beautiful ones that come to my mind are the Empire State, the Bank of Manhattan and Irving Trust," said Henry Bittman, Seattle architect, upon his return from a recent visit to the American metropolis. "To give Seattle folk a comparative idea, the Empire State is three times the height of the L. C. Smith Building," said Mr. Bittman. "The new George Washington Bridge across the Hudson River at 180th Street, is also an impressive structure."—*Pacific Builder and Engineer.*

PERSONALS

Harlan Thomas of Thomas, Grainger & Thomas, architects of Seattle, accompanied by Mrs. Thomas, is enjoying the summer months abroad. They will be absent until October.

Edwin H. Snyder, architect, of Berkeley, is planning a six months stay abroad, leaving San Francisco about September first and returning in February. Mrs. Synder will acompany him.

L. T. Bartholomew of Salem, Oregon, has been appointed Chairman of the Oregon Building Congress.

Gaston C. Lance of Russell, Lumm & Lance, architects in the Jones Building, Tacoma, has been granted a license to practice architecture in the State of Washington.

William A. Johnson has returned to the drafting board in the office of E. J. Bresemann in the Perkins Building, Tacoma, after completing his junior year in the architectural department, State College of Washington at Pullman.

Messrs. Kent and Haas have moved to new offices on the sixth floor of the Underwood Building, San Francisco.

CHARLES E. BUTNER BUSY

Charles E. Butner, who recently opened a branch office in the Glikbarg Building, Salinas, reports that the City of Salinas school authorities recently commissioned him to prepare plans for school alterations and additions to be made under an $80,000 bond issue. He is also named as architect for a $30,000 building in the Spring School District, near Salinas, and a new unit to the Tubercular Saniatorium in Fresno County, estimated to cost $12,500.

WILL TEACH MODERN DESIGN

Realizing that a knowledge of modern design is required of the architectural draftsman of today the Los Angeles College of Architecture and Engineering, located at 2256 Venice Boulevard, Los Angeles, California, has completed arrangements with Richard J. Neutra, A.I.A., Z.V., to direct the department of architecture in its institution, and merge his own school with the college.

Mr. Neutra has just completed a lecture tour around the world, addressing architectural and art associations as well as representatives of industry and manufacture in Japan, Asia and Europe. He was American delegate to Les Congres Internationaux d' Architecture Moderne, which met last November in Brussels and his report was one of the four main topics of the Congress. On his return to the United States Mr. Neutra was invited to speak before the New School of Social Research, the Roerich Museum, the Art Center of New York and the Association of Art and Industry of Chicago and the University at Ann Arbor.

The works of Mr. Neutra have been published in many international magazines. Particularly his all steel and shot concrete residence in Los Angeles, with a suspended swimming tank, open air theater, gymnasium courts, etc., and which was quoted in Cahiers de Art, Paris, as "America's contribution to the world movement in new architecture."

The inclusion of modern architectural design and planning into its curriculum assures the students of the Los Angeles College of Architecture and Engineering the most up-to-date and practical training available.

No attempt is made to specialize in any one particular phase of the subject of architecture. Instruction in building construction details, history and theory of architecture, drafting, structural engineering and specifications is given each in its particular sequence, so that at the end of the course a complete practical knowledge has been acquired.

M. T. Cantell, F.R.I.B.A., certified architect and certified civil engineer, who has had lifelong experience as a technical professor, is principal of the college.

ARCHITECTS MOVE

The following architects, all readers of this magazine, report changes in their office addresses as follows:

Kenneth E. Fratis, moved to 6224 Manoa Ave., Oakland.

Shaw & Hales, to 1510½ North Vermont Ave., Los Angeles.

Ralph H. Cameron to Majestic Building, San Antonio, Texas.

Donald McCormick to Studio Building, 13th & Boston Ave., Tulsa, Oklahoma.

A. B. Rosenthal to 2401 West 6th Street, Los Angeles.

Glenn Elwood Smith to 696 East Colorado Street, Pasadena.

J. Thomas Payne to 1261 North 55th Street, Los Angeles.

Theodore R. Jacobs to 528 West 50th Street, Los Angeles.

Julius S. Everett to 1936 North Mariposa Ave., Los Angeles.

Richard J. Neutra to 1348 North Douglas Street, Hollywood.

Francisco & Jacobus to 839 North Verdugo Ave., Burbank.

Postle & Postle to 1144 South Grand Ave., Los Angeles.

Paul C. Pape to 6758 Milner Road, Los Angeles.

H. M. Banfield to 816 North Monterey Ave., Alhambra.

Harry B. Aarens to 301 South Kenmore Ave., Hollywood.

B. J. Bloser to 4554 West 12th Street, Los Angeles.

Lyle N. Barcume to 4328 Normal Ave., Los Angeles.

Ralph O. Beattie to 1516 6th Ave., Los Angeles.

Ernest Flores to 644 9th Ave., Richmond.

MAY PRACTICE IN OREGON

Messrs. O. W. Morgan and Stiles O. Clements, architects, of Los Angeles, have recently been given licenses to practice in the State of Oregon, due to the fact that they are the architects for the new Lloyd Hotel, a $3,000,000 structure soon to be erected in Portland.

NEW ELECTRIC HEATER

Sandoval Sales Company, 557 Market Street, San Francisco, distributors of the Apex line of electric heaters, announce that the new Apex Blo-Air electric heater is now being manufactured in four models to meet every heating need. Unlike most electric heaters, the Apex makes use of a fan to circulate the air instead of depending upon the slow process of gravity circulation.

The Apex heater, according to H. E. Sandoval, general manager of the Sandoval Sales Company, is economical to operate. No heat is wasted, since it all goes into the air. The motor is silent and free from vibration. The moving parts are protected against damage. Low speed operation of the fan circulates the air so gently that no draught is felt, even close to the appliance. The fan draws fresh air into the room or expels the warm air, depending upon which way the heater is pointed. It also expels steam and odors from the kitchen and laundry. This double service is the result of having the fan and heating unit on separate switches.

"With the Apex Blo-Air you get the advantages of healthfulness, cleanliness, convenience and safety, which electricity always affords, together with comfort and economy," said Mr. Sandoval.

SIMMONS BED DISTRIBUTORS

O'Keeffe & Company, Inc., are now the exclusive distributors for the Simmons wall beds. Their office and show rooms are at 788 Mission Street, San Francisco, and 792 Twenty-second Street, Oakland. The Simmons Company now controls the Rip Van Winkle patents and this bed is sold in conjunction with the regular line of Simmons beds. O'Keeffe & Company report prospects very encouraging for an early resumption of apartment house building.

DEGREE FOR ARCHITECT

The honorary degree of Doctor of Architecture was conferred for the first time in this country at the 1931 Commencement of the University of Nebraska, the recipient being H. Van Buren Magonigle of New York, characterized in the citation as "scholar, teacher, author, architect, painter, and sculptor of national reputation."

Mr. Magonigle is a past president of the New York Chapter of the American Institute of Architects, and for several years served on the Board of Directors of the Institute. He was recently awarded the gold medal of this Chapter for distinguished services to his profession. He is a trustee of the American Federation of Art, a member of the Society of Beaux Arts Architects, and a past president of the Association of the Alumni of the American Academy in Rome, and the Architectural League of New York. He won the gold medal of the League in 1889.

Many notable monuments and buildings have been designed by Mr. Magonigle. Among them are the National McKinley Memorial at Canton, Ohio; the Liberty Memorial at Kansas City, Missouri; the Maine Monument in New York; the national watergate in memory of Robert Fulton, the Fireman's Memorial in New York, and the Gates Avenue Courthouse in Brooklyn. The great sphinxes at the Kansas City Liberty Memorial were modeled by Mr. Magonigle, whose paintings have been shown in many national exhibitions.

DESIGNER FOUND GUILTY

In Judge Ames' Court, San Francisco, June 10, L. A. Blecher was found guilty of violation of the act to regulate the practice of architecture in the State of California, according to H. H. Gutterson, secretary of the State Board of Architectural Examiners. Blecher was convicted on a warrant sworn to by A. L. Bolton, investigator for the State Board of Architectural Examiners, who charged that Blecher had prepared plans for an apartment house for Mrs. Della Barwald, at Green and Laguna Streets, San Francisco, in violation of the architectural act.

Y. M. C. A. BUILDING ADDITION

A three story brick addition to the Berkeley Y. M. C. A. gymnasium is to be built this summer from plans by W. H. Ratcliff, Jr., Chamber of Commerce Building, Berkeley.

SOCIETY and CLUB MEETINGS

ARCHITECTS JOINT MEETING

County Architect Karl W. Muck addressed the joint meeting of the Southern California Chapter, American Institute of Architects, and the Southern Section, State Association of California Architects, held at the Wilshire Country Club, Los Angeles, Tuesday evening, June 16. Mr. Muck talked on the functions of his office and on the subject of the private architect in public construction.

Robert H. Orr, president of the State Association of California Architects, reported on the progress being made toward the unification of all bodies of the architectural profession, and spoke of the effort that is being made to place all public building work in the hands of private architects.

A. M. Edelman reported on recent amendments to architects' bills and on pending amendments governing the practice of engineering.

H. C. Chambers, president of the Southern California Chapter, American Institute of Architects, presided at the meeting and introduced architects from various Southern California cities. In addition to the representation from Los Angeles, architects from San Diego, La Jolla, Long Beach, Santa Monica, Bakersfield, Santa Ana, Riverside, San Francisco, Pasadena and Pomona were present.

CITY PLANNERS MEET

The Association of City Planners of Los Angeles County held their May 9th meeting at Palos Verdes Estates. They last met in Palos Verdes September 12, 1925, and naturally were agreeably surprised to note the progress that had been made since that time.

Tables were set in the auditorium of the Malaga Cove school, which was gay with flowers. The perfume of broom and honeysuckle filled the air, as over a hundred, many from distant parts of the county, sat down to luncheon, which was served by the chef of the Surf and Sand Club. Great credit is due to the Palos Verdes Woman's Club, which acted as hostess.

The President of the City Planners, Jack Albers, City Engineer of Glendale, presided, calling first, in the unavoidable absence of President Low, on Dr. Stein, as Vice-President of the Homes Association, who tried to put into words the heartfelt welcome of the community that was being silently expressed by the beautiful preparations made for our guests. Vice-President Thomas Blair of Redondo replied for the City Planners, saying that from his home, which overlooked Palos Verdes, he had followed with greatest interest the growth of this new neighbor, which exemplified in so many ways the aims and ideals held by city planners everywhere.

C. H. Cheney, who was associated with Olmsted Brothers in the design of Palos Verdes Estates, gave an account in some detail of the inception of the development and how it has been carried on up to the present. During his talk he made frequent reference to the two large maps behind him on the stage—one of the whole Palos Verdes peninsula, the other of the 3225 acres under development by the Project. Special phases of the work were the subjects of the two following papers, in which George Gibbs described the problems encountered in street and park designing and Everett M. York discussed the Palos Verdes Homes Association and the part it will increasingly play in the stability of residence values.

The address of the afternoon was given by Myron Hunt, President of the Palos Verdes Art Jury, who told of the part this body has had in giving character to the community and the many problems that it has encountered and, largely, solved. He pointed out that the general effect of the Art Jury's work to date has been to produce a high average of excellence in the architecture of Palos Verdes Estates, that there is much greater consistency and coordination of design and color in the buildings than is met with in other places, all of which is of the highest value to the community, not only aesthetically, but in a material way as well.

One noteworthy byproduct of the Palos Verdes Plan, not foreseen by its designers, Mr. Hunt pointed out in closing, is the unusually high aver-

age quality of those who are attracted to the Estates to live. Whether taking up their residence in modest homes or in mansions, the people of Palos Verdes will measure up well in social qualities and citizenship with those of any community of its size. And yet, this is not so surprising, he said, since such men and women of good will might be expected to be attracted to a place where they could give their own finer instincts free rein, assured of protection against anything less than that from their neighbors.

After the meeting Mr. Cheney led a group of thirty or forty to points of special interest, including the swimming club, three plazas and the library, with a visit to the Frank Geritz exhibit. One of the guests who showed great interest in the library was William D. Davies of Altadena, who as trustee of their library district, the first in the state, was a leader in securing a court decision some years ago, declaring that library districts are valid legal entities.

WASHINGTON STATE CHAPTER

The May meeting of Washington State Chapter was held in the gold room of the New Washington Hotel, Seattle. It displayed some of the characteristics of good fellowship and lack of formality that had characterized the previous meeting although the particular source of inspiration was absent, its location in the room being occupied by an exhibit of sketches from Tacoma. There was a good turnout of Chapter members from Seattle and Tacoma.

Correspondence read by the secretary included a letter from the Seattle Real Estate Board announcing the impracticability of proceeding with the proposed Honor Award Competition; also a letter from the U. S. Department of Agriculture anent the recent call for proposals for architectural service in connection with a proposed building on Tatoosh Island.

Mr. Albertson reported for the Special Committee on Professional Charges on further developments after the submission of the proposed schedule to the Chapter members following its presentaat the last meeting. After some discussion on the various items it was voted to have no fee established in this schedule at less than 6 per cent, the minimum recommended by the Institute, and that no method of determining fees be mentioned in the report other than that of percentage.

Reporting for his sub-committee on education, Chairman Gove called attention to the summer sketching competition previously announced to the members and referred to the sketches on exhibition at the meeting which were the work of students and draftsmen in Tacoma.

After a pre-arranged altercation between Harlan Thomas and Mr. Loveless, which the president was apparently unable to control, Mr. Hogue of the West Coast Lumbermen's Association suggested that in view of what he found at this, and previous meetings, the Chapter needed a gavel. He introduced Mr. Mackay of the National Lumber Manufacturers Association, who, with a few well chosen words, produced a gavel made of Long-leaf Southern Pine, which had formed a part of the White House at Washington for 112 years, being a section of one of the roof trusses. Mr. Mackay presented this gavel to Mr. Hogue who, in a gracious speech, offered it to the Washington State Chapter. President Borhek thanked Mr. Mackay and Mr. Hogue on behalf of the Chapter and called for a rising vote of thanks which was given unanimously. It was also voted that a copy of the history of the gavel be incorporated in the minutes of the meeting.

The licensing of some architects by the State, who had failed to pass the authorized examination, was brought to the attention of the members, and as it appeared that the Department of Licenses had agreed not to have this repeated it was voted that the Chaper express to the Department its appreciation of this agreement.

The June meeting of the Washington State Society of architects was held at the Bergonian Hotel, Seattle, and was well attended.

An invitation to be present to Colonel Bickford, president of the Seattle Construction Council, failed to reach him in time.

Mr. Fryer, speaking of the value of the architect on the job, said that the principal thing at this time would seem to be the importance of educating the public in reference to the architect and his work.

A committee of architects might assemble matter for a well illustrated talk, which should be taken before the service clubs, contractors and mechanics; as even the least worker on a job can and does boost or belittle the architect, as the case may be.

It was decided not to hold further summer meetings other than the usual Wednesday noon get-together at the Huntington Coffee Shop.

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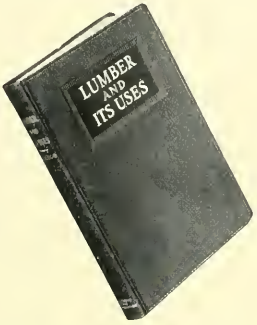

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MILLIONS FOR PUBLIC BUILDINGS

Seven hundred federal buildings, costing $429,000,000, are in various stages of construction throughout the country, it is reported. In addition, 51 projects which cost $23,316,876 have been completed within the last two years.

President Hoover, in making this announcement, segregated the public works program into six groups: (1) completed; (2) sites acquired and contracts let in whole or part; (3) plans finished, specifications being prepared or bids asked; (4) sites acquired and plans partially completed; (5) sites determined and acquired or in process of negotiation or condemnation, and (6) authorized and sites in process of selection.

The second group includes 150 projects on which construction has begun within the last three months and which will be completed at an estimated outlay of $120,213,900. A cost of $20,097,000 is expected to cover the third classification which includes 56 projects.

Sites have been acquired and plans partially completed for 190 projects which have been limited to a cost of $192,173,723. President Hoover expects work on this group to be under way within six months.

For 115 more projects, on which construction is to begin within a year, sites have been determined and acquired or are being possessed through negotiations or condemnation. The limit of cost for these is $50,622,941.

Besides these, Congress has authorized about 200 projects for buildings to cost around $46,000,000. Officials are attempting to select the sites.

The most expensive building in the already completed group is that in Washington for the internal revenue bureau. It cost $10,000,000. The most costly under construction also is in the capital, which will require an outlay of $17,500,000 and will house the commerce department.

Contracts for public and semi-public construction projects totaling $26,299,144 were reported to the public works section of the President's emergency committee for employment the last week in May. This brings the total value of such contracts reported since December 1, last, to $1,622,992,651.

For the third week in May, $155,020,594 worth of contracts were reported. This figure included $96,879,468 worth of state and Federal aided highway contracts awarded in April and $1,585,930 worth of national park and Federal forest road contracts awarded in April which were reported to the public works section during the week.

The projects last reported total 132 in thirty-two states and the District of Columbia. They include municipal buildings, hospitals, educational

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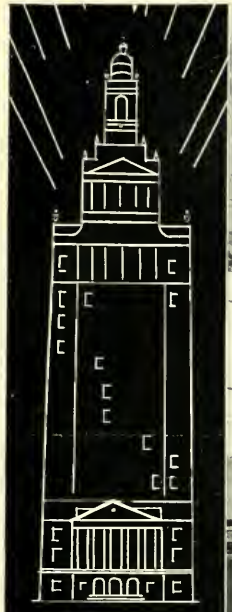

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NEW CEMENT PLANT

Construction of a $2,250,000 cement plant eight miles southwest of San Jose on the Almaden branch of the Southern Pacific railroad, is contemplated by the San Jose Cement Company, Ltd., recently incorporated under the laws of Delaware with a total capital stock of $19,500,000.

Ernest H. Dettner of San Francisco is president of the company. San Jose directors are: Dr. Mark F. Hopkins, second vice-president and treasurer; F. L. Burrell and Wendell C. Thomas.

The properties are located about eight miles southwest of San Jose and just to the west of Coleman avenue with the property adjoining the Almaden branch of the Southern Pacific railroad.

The plant is to be constructed by the Hunt-Mirk Company of San Francisco. Kilns and mills will be furnished by the Polysius Corporation of Bethelehem, Pa. It will have an initial daily capacity of 3,500 barrels.

As consulting engineers associated with the construction company will be A. P. Hachtman, of the Polysius Corp.; Fred B. Frank, Sr., former president of the Keystone Cement Company; Thomas B. Reeves, San Francisco mining engineer, and Mark E. Thomas, civil engineer of San Jose.

NEW SALES MANAGER

Announcement is made of the appointment of a new general sales manager of the Plant Rubber and Asbestos Works, San Francisco. He is R. H. Chase, whose experience covers twelve years of sales and engineering work in kindred industries to those which the Plant Company serves.

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MOVIE SHOWS CEMENT PLANT

With the view of educating the public on the niceties of modern Portland Cement manufacturing, and the care with which it insures the uniformity of its product, the Calaveras Cement Company of San Francisco has produced a 16 mm. motion picture showing the various steps in the manufacture of its cement. The film is being shown before luncheon clubs and other organizations. Recently the members of the San Francisco Architectural Club enjoyed seeing the picture which was run off at the club rooms.

The film is attracting a great deal of favorable comment because it brings out some of the "believe it or not" items used in connection with the manufacture of Portland cement.

One scene shows the "sacks that are tied before they are filled"—the cement being inserted through a patent valve in the bottom corner of the sack. When there is exactly 94 pounds, or one cubic foot, of cement in the bag the cement supply is automatically cut off.

Another scene shows the 200 mesh sieve which is used by the industry to test the fineness of cement. This sieve has 40,000 openings to the square inch and in the picture it shows that it is so fine it will actually hold water. The above mentioned items were both used by Ripley in his "Believe it or Not" column.

Perhaps the most surprising part of the film is the animated thermometer which shows graphically the melting points of various metals such as gold and steel. The heat necessary to clinker the raw materials in cement requires 2700° F., or greater by 200° than that necessary to melt steel, or a heat that is hotter than in a volcano.

Scales are also used to weigh the different ingredients, and they are so delicate they will weigh a pencil mark on a piece of paper.

J. E. Jellick, formerly Pacific Coast manager of the Portland Cement Association, now with the Calaveras Cement Company, directed the taking of the picture, and is giving the talk which accompanies the showing.

Last year the Calaveras Cement Company was host to more than 50 architects and 75 engineers at the plant and Kentucky House near San Andreas. Since production was started five years ago, more than 6000 visitors have inspected the plant.

PLANT OF THE CALAVERAS CEMENT COMPANY OF SAN FRANCISCO

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

Note raise in prices this month of brick, rock, lumber and finish hardware. Lower prices in cement and tile roof.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $31 to $36 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $12.50 plus cartage.
Face, f. o. b. cars, $45.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 75.00 per M
4x12x12 in.	85.00 per M
6x12x12 in.	124.00 per M
8x12x12 in.	188.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$87.00
6x12x5½	60.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.

Rubber Tile—55c per sq. ft.

Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Qnotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Eliot pea gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 jer ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to disconnt of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per sqnare.
Hot coating work, $1.80 per sqnare.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an antomatic elevator in four-story bnilding, $2450; direct automatic, about $2400.

Excavation—
Sand, 50 cents; clay or shale, $1.00 per yard.
Teams, $10.00 per day.
Trucks, $21 to $27.50 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per sqnare foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscnre glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3 Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	58.00 per M
1 x 4 No. 2 flooring	50.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	52.00 per M
1¼x4 and 6 No. 2 flooring	60.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$130.00 M ft.		
1 1-16x2¼" T & G Maple	140.00 M ft.		
⅞x3½ sq. edge Maple	127.00 M ft.		
	13-16x2¼" T&G	⅞x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $80.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Ore. pine) $6.50 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $6.00 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.50 each.
Dining room cases, $6.00 per lineal foot.
Labor—Rongh carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

NOTE — Above quotations are for 7/8 inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Verde Antique	3.00 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft
Tennessee	1.70 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 95c per gal. in cans and 80c per gal. in drums.
Raw Linseed Oil—$.87 gal. in bbls.
Boiled Linseed Oil—$.97 gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb lots	12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt.	13¼c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $7.50 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90
Wood lath, $4.00 per 1000.	
2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$90 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $86.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

DOOR TO ARCHITECTURAL PRACTICE*

The door to architectural practice is the legal right to use the title "architect". The various state registration boards or committees are the custodians of the keys. At present, the keys are many and various, and the custodians are not equally careful. Safety demands that something be done to minimize the hazard. Custodians of the same thing must cooperate. One's neglect casts reflection on all. Too many people and too many different keys control the door to architecture. As citizens and architects what are we going to do about it? A simple way would be to discharge all of the help, put a new cylinder in the lock, grind one new key to fit it, and put one safe, sane man in charge. But it is not so simple as it seems. The doctrine of state rights prevails. That doctrine makes national registration an impossibility. No matter how much waste and inconvenience, each state must maintain the sovereign right to regulate its domestic affairs. Architecture being a domestic animal, it must always submit to independent state regulation. If we would solve the problem, we must find some way, not contrary to the doctrine of state rights, by which we can secure practical unity of separate state action.

If examinations are made the only key to the lock that locks the door to architectural practice, and all states have duplicate keys, the problem of interstate exchange of registration credit is reduced to the simplest possible terms. All that is necessary to do is to make the examinations properly stringent, universally uniform, and the desired results are accomplished.

Architecture, probably more than any other profession, save engineering, is interstate, and always will be. It would be fine if we could have national registration, but for reasons already stated, this will never be possible. With separate state control, there are always going to be state legislatures which will pass state laws to do the same thing differently. The scheme of a standard registration law uniform in all states is an ideal dream. It can never be an accomplished fact. Casting about for a remedy to accomplish desired results, it is noted that the state registration laws for the regulation of the practice of architecture seem almost universally to provide that architecture shall be in charge, either directly or in an advisory capacity, of all regulations having to do with the practice of architecture. In this uniformity of state legislative action, there is open a possibility of

*An address by Emory Stanford Hall, F. A. I. A., before the National Council of Architectural Registration Boards, San Antonio, Texas, April 13, 1931.

Entrance Vestibule, Shell Oil Building, San Francisco
Walls of French Botreville Marble
GEO. W. KELHAM, *Architect*
P. J. WALKER COMPANY, *Builders*

▼ ▼ ▼

All Interior Marble
In the Shell Building
Furnished and Installed by the

American Marble Company

Also all Marble Work in the Christian Science Sanatorium, San Francisco.
HENRY H. GUTTERSON, *Architect.*

▼ ▼ ▼

American Marble Company

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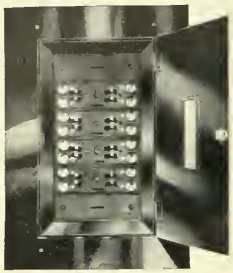
San Francisco, California
Telephone MA rket 5070



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Dallas, Texas	San Francisco, Calif.
Denver, Colo.	Seattle, Wash.
Detroit, Mich.	Tulsa, Okla.
Kansas City, Mo.	Toronto, Can.
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seeming great importance. If these architectural administrators could be frequently brought together in common assembly, as we are here, they could be brought to common thinking and acting. With common thinking and acting on the part of state architectural registration boards lies the possibility of uniform practice in the administration of the widely different state registration laws. This common understanding is the primary aim and purpose of this Council. There is no reason why we cannot work together. We are all architects, and we have one common purpose — the making of the name "architect" mean something every where it is used.

Make the legal right to use the name "architect" a guarantee of competency in the art of architecture and we have a key of ample serrations to make safety certain. Let the winning of state architectural examinations be a goal earnestly to be striven for. If the game is fair and the going difficult, there will always be plenty of people to enter the contest. It is the easy game that no one cares for. Tell the average red-blooded man that he cannot do something, and he will. In the games of life, as in sports, the man who wins has to undergo the hard, gruelling trials of preparation. A game is not a game worth entering that does not require strenuously intense preparation.

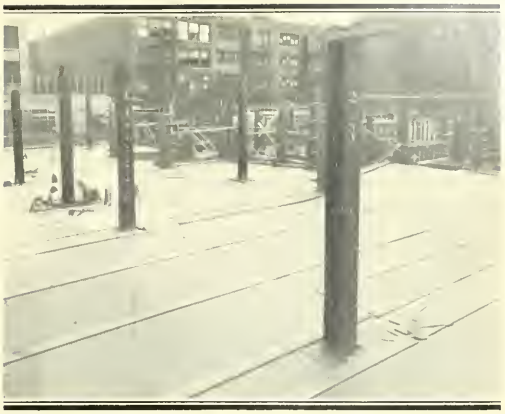
High school and college training are only a step in the preparation for professional practice. They are not *preparation*. Practical experience is only another step in preparation for professional practice. It is not *preparation*. Preparation for architectural practice is a combination of disciplines and experiences, which, when completed, makes one fit for the job of architecture. It is not one thing nor another. It is all of those things necessary. Necessity for one man may be superfluity for another. Every sewed-up bunch of intellect, sensibility, and will, which make up a man, has a varying reaction. We cannot be sure just what treatment to give it to get the results we are after. The test of education and experience is to develop correct reactions. Reactions developed must be so combined with the life to be developed as to produce, for the purposes intended, an effective human machine.

The preparation completed and the finished product offered for service, then we are ready for the test. A test is called for. What shall it be? Something that is easy or something that is hard? It is an insult to a real man to offer him a test which is not on a par with his ability. It is likewise a crime to offer the public, under the name of "architect", men without sufficient ability to

properly and safely perform the functions of an architect.

The job of the state examining board or committee is not to reduce the number of architects available for practice. It is their job to see that every one available for practice is competent to perform his task with safety and satisfaction to the public, also, at the same time with some credit to the profession which he represents. There is nothing to be complained of if the standards are high, provided they are appropriate standards of requirement important to the practice of architecture. Architecture must not be a closed corporation denied to any man who can meet appropriate standard entrance tests. Examinations conducted at any time during the stage of preparation for practice should be considered as progress examinations. At the end, when a man's work of preparation is complete, he should have a key that exactly fits the lock on the door to entrance to practice, and that key should be adequate preparation proved by a legally conducted fair examination. If this is important in other learned professions like law and medicine, it is of equal importance in architecture. It is up to the registration boards, acting as a unit, to make the name of architect of real meaning. It must have a significance that cannot be questioned. It is not so very important whether anybody has to hire an architect or not, but it is of tremendous importance to know, beyond a peradventure, that if they do hire an architect, they are going to get their money's worth.

Few people realize the tremendous hazards of building. Those who do, think they are entirely of so-called structural character. Yet, nothing could be farther from the truth. The economic hazard of mistaken diagnosis and bad planning costs this country a perfectly enormous sum. How much, it is impossible to estimate. By a study of typical cases among the nearly 6 billions of average annual building construction before the panic of 1929, the percentage indicates an immense economic loss. Once a man planned a theater without any appropriate knowledge of the science of plan, and because of this ignorance, and not on account of any engineering or structural defect, 700 lives were wiped out. Another man planned a factory, and because of lack of visualizing power was unable to foresee appropriate routing of material and processes, causing numerous instances of cross-traffic, difficult work done under bad light, and other plan defects. Financial losses in such cases cannot be estimated on the basis of percentage of cost of building. Instances such as ruined eyesight, broken down health, daily financial leaks due to poorly organized layouts, light-



80,000 sq. ft. of Sisalkraft were used for curing and protecting the concrete floors of this department store in Vancouver

Have you STANDARDIZED your concrete curing?

THE manufacture of cement, selection of aggregates, water-cement ratio, and improved mixing equipment have standardized the *placing* of concrete to such an extent that a poor job is a rarity.

The use of Sisalkraft completes the standardization—taking haphazard methods out of the *curing* and *protection* of fresh concrete, often at less cost than former ways of curing.

Sisalkraft "automatic" curing assures dense, strong concrete, without the expense and trouble of sprinkling. At the same time, it keeps off stains and dripping cement, maintaining its protection even under considerable abuse. When the paper is removed you have a clean, unscratched surface, which does not require grinding or scrubbing.

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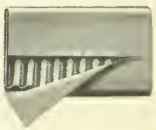

Insures Facades Against Cracked or Broken Facing Blocks

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THE Cowing Joint is installed in the columns and weight carrying mullions at a mortar course. Its purpose is to relieve pressure thrown on the facing material by compression of steel, temperature changes, vibration and wind stresses. Experience has proved that these severe stresses, unless relieved, will crush and break the stone, terra cotta or marble.

Where the Cowing Joint is installed at each story height the building is completely insured against cracks and spalls, the mortar joints are protected from crushing and the maintenance cost of tuck-pointing is eliminated. The facade is in no manner weakened because the Cowing Joint carries the normal weight of the facing material and compresses only enough to relieve the stress.

See "SWEETS" Catalogue

Cowing Pressure Relieving Joint Co.
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ing position, etc., are continuous daily losses which may amount to many times the cost of the original building.

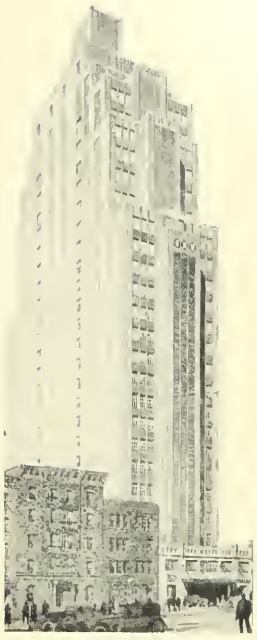
Final examinations should take cognizance of scope and character of preparation and grade same justly and fairly in accordance with a carefully worked out system of grading. Examinations for entrance to practice have, as their primary purpose, the determination of a broadness of training sufficient to prove that the candidate is able to discharge any one of the functions which might fall under the architects duties. It should not be the purpose of entrance examinations to qualify specialists in some form of architectural practice. if anyone wants to specialize in some one branch of architecture, he has the right to specialize as much as he pleases, after he has once established his qualifications for general architectural practice. Optometrists have not the right to call themselves M. D.'s or to treat defective eyes other than to fit glasses. But ophthalmologists, who were first M. D.'s qualified for general medical practice, and then afterwards specialists, may both fit glasses and administer medical treatment. It is unsafe to treat the eye without a knowledge of the whole human body. It may be a disease of the stomach that is really causing trouble with the eye. There are, no doubt, optometrists who would like the emoluments of treating the eye without walking the hard road of complete medical preparation.

We hear much argument these days concerning the alleged injustice of requiring men who are clever with the pen, the pencil, and the brush to know something about the science of building. We, also, hear similar argument concerning those who are well-versed in the mathematics and science of building who have nothing of the imaginative and picturing power, which is so essential to thinking out and clothing a building project before it is constructed. The specialist in design needs to know construction and administration before he is qualified to resign, and the specialist in construction needs to have aesthetic sense and dream power before he is qualified to properly detail construction, and both the designer and the constructor need to understand something of the principles of the mechanics involved in the supply of air, water, and electricity, and the apparatus which they supply, control, or operate. No man can be construed to be a competent designer who does not understand the principles involved in the mechanisms which his design houses. No design can be construed as an ideal design that does not express the thing it clothes. No construction can be construed as well-designed unless it embodies something of symmetry and proportion. This is an insistent plea that the title "architect"

be reserved for only those who can show general qualifications and reasonable understanding of all of the design, structural, mechanical, and aesthetic problems that enter into building.

Certain aspirants to the financial and social emoluments of architecture have given themselves to ridiculing the idea of any single person being able to acquire all of the essential general knowledge requirements for competent architectural practice. That talk finds its source in the laziness of some people who do not want to spend the time and labor necessary to properly prepare for the professional practice of architecture. This idea finds advocates among two widely divergent classes—rich men's sons who want to use the title "architect" and only be required to spend a little time in the study of depiction and no time at all in the drudgery incident to the long, systematic courses of technical training, followed by a more or less menial period spent in gaining practical experience in the various departments of an architect's office, or, in the other extreme, poor men's sons who are sure, because of their financial handicaps, that it is impossible for them to find the necessary time and expense to undertake college training, and men who want to earn wages all of the time they are engaged in preparation. The idea that a single individual can acquire theoretical knowledge and practical experience in all the departments of architecture is not a conceited notion; it is absolute necessity. Broad architectural training is not so hard nor so impossible as some would have you think. It does not matter much if some of these men never get into architecture. We are not very much concerned in getting poor men jobs nor rich men social position. There is plenty of work in business for those who do not wish to prepare for the professions. The thing that a professional man has to sell is knowledge and experience. If he has not systematic knowledge and experience, or if he has only one without the other, and he attempts to practice the profession, he is asking remuneration for something he is not giving. In the training of an architect, we are not asking that he be an expert electrician, an expert concrete worker, an expert plumber, draftsman, chemist, or physicist, and that he know all that there is to know about the history of civilization and social science, but we are asking that he know the fundamental principles of the mechanics of materials, mechanism, and design, and that he be familiar to an understanding point with usual customary practice. We expect him to know enough of the history of civilization and social science to understand that good architecture has always in all ages been the outgrowth of the social conditions and ideals of that age. He

Where They Park Cars in the Clouds



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The Kent Automatic skyscraper garage on east 43d Street in New York is literally built up 24 stories around 3 elevator shafts. The patron drives in at street level, locks and leaves his car. An electro-automatic parker lifts the rear wheels and rolls the car onto an elevator, which carries it to an upper floor. There the parker rolls the car into a parking space, lowers the rear wheels to the floor and leaves it. Nobody gets into the car; the car is not touched; there is no chance of damaging it by collision; the handling is quick, clean and safe; the patronage is steady and profitable.

The electrical installation of this skyscraper garage is intricate and interesting. Naturally the engineers insisted upon dependable wires and cables for all power, lighting and control circuits — HAZARD Insulated Wires and Cables were used throughout.

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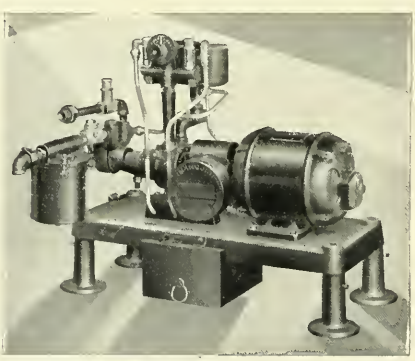

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must be made to consciously understand that real architecture of any age, our age if you please, is the outgrowth of conscious or subconscious human need. We know, from a knowledge of what other men have done, that it is practical and possible with appropriate natural ability and careful application extended over a period of approximately 11 years from the time a boy leaves the elementary schools and is ready to enter high school, for a man to acquire a good general architectural education. This is the minimum period required by medicine, theology, and approximately so in law, civil engineering, and chemistry. Shall architecture ask any less? Shall it admit any one who cannot reasonably make the grade in that period of time, or who is unwilling to spend that period of time in preparation?

The competent professional architect of broad training is a social need. He occupies a definite place as a creator, a general, and an umpire in the building industry. Eliminate the architect and you eliminate fair competition in the building business, which means its eventual monopoly by a few general contractors. If the building program is too big for the understanding of the architect after 11 years of special training, what must it be for the general contractor without any training?

The architect cannot hold his place of respect and prestige and be nothing but a specialized designer or a specialized engineer. Prestige is a fleeting thing; it cannot be held except by the superior knowledge and understanding which give poise, or by dollars which mean power. Which shall it be? I say knowledge. I, for one, am not ready to concede that the prestige of dollars should be superior to the prestige of knowledge.

The technique of examinations needs to be well-organized, commonly understood and agreed to between the various registration boards. To be specific, I suggest as follows:

(1) That we agree that it requires the normal man a minimum period of 8 years of high school and college work plus three years of practical training, or a total period of 11 years to prepare for architectural practice.

(2) That if preparation is to be made while engaged all of one's working day time in gainful employment that the period should be extended to not less than 15 years.

(3) That whatever the method of preparation that, during the entire extent of the preparational period, there be periodic examinations, or tests, to note comparative progress. High school and college diplomas would be proper certification for those pursuing systematic education, and employ-

er's certificates might answer for practical experience, but for men acquiring training through night schools and private tutors, some better method than now exists should be devised.

(4) Having completed the theoretical training and practical experience prescribed and passed all of the stage examinations, the candidate is ready for his final entrance examinations. These examinations, because they are final and for entrance to practice, should be conducted by a competent jury of not less than 5 college trained men who, in addition to college training and required practical experience before practice, should have had not less than 10 years of actual practical experience in the independent practice of architecture as a principal with all of its attendant responsibilities.

(5) Examination questions in the final entrance examinations, whether on history, art, mechanics, or construction practice should be closely linked up with present day practice. It may be assumed that all abstract questions have been covered in previous so-called stage examinations. No problem of practice should be given that has not occurred and been actually worked out and constructed in the ordinary practice of the examiners. Even questions in history should have a social application that could have a bearing on present day practice. Examinations should place the candidate in as nearly the same condition as he would be in actual practice as possible. He should not be expected to memorize formulae which, in the office, he would take from text books. He should be allowed the free use of these. He should be required to prove the thorough understanding of theory as intelligently applied to practice.

ADDRESS ON CITY PLANNING

An interesting address on the value of city planning was given at the University of Washington on the evening of May 6 by Professor W. R. B. Willcox, head of the Department of Architecture, University of Oregon. The subject of the address was "Paris" and Mr. Willcox showed by means of many interesting illustrations how Paris, apart from being confused in plan as might casually appear, was so arranged as to provide direct and efficient traffic routes and to display the many attractions of the city in the most logical and pleasing manner.

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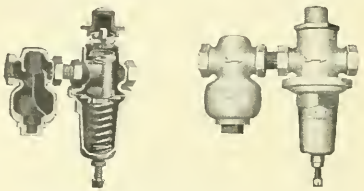

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A valuable adjunct to the heating industry of the Pacific Coast was effected during May with the opening of the Pacific Coast branch of the American Gas Association Testing Laboratory in Los Angeles.

For years, the research activities of this organization have been conducted in Cleveland, and their services have been of immeasurable value to the heating industry. The A. G. A. Blue Star seal of approval on heating appliances has long been a symbol to insure an adequate and efficient heating installation.

The need for this Pacific Coast branch has been sharply felt. In 1927, there were only nine manufacturers of approved gas appliances on the Pacific Coast, among which were three manufacturers of ranges, two of water heaters, and four of central heating gas appliances, while at the end of 1930, about 43 per cent of all manufacturers of approved central heating gas appliances, and approximately 23 per cent of the total number of manufacturers of all types of approved gas appliances in the United States and Canada were located in that territory. And this in spite of the delay and expense incurred in sending appliances to the East to be tested and approved.

In view of these considerations, the recom-

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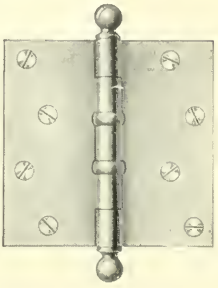
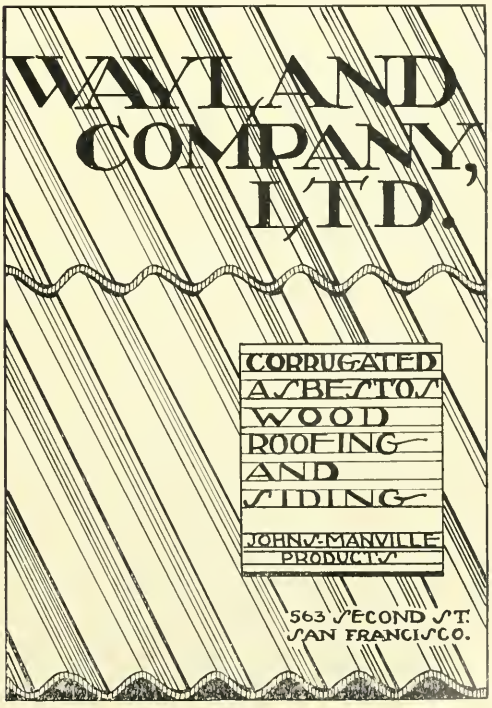


mendation for the establishment of a preliminary testing and inspection station on the Pacific Coast was approved by the Executive Board of the American Gas Association in October of last year, and arrangements were thereupon immediately made for securing a suitable site for the Laboratory and the installation of the necessary equipment. Los Angeles was selected as being the most centrally located site, since approximately 70 per cent of all manufacturers of approved appliances on the Pacific Coast are located in that vicinity. A suitable building was leased at 718 Towne Avenue, Los Angeles, and arrangements made for the necessary remodeling and installation of piping and equipment.

W. M. Couzens, formerly chief inspector of the A. G. A. Testing Laboratory, was made supervisor of the Pacific Coast branch laboratory, and all work in connection with activities there are under his immediate supervision.

Two gas holders were erected for the storage of two types of manufactured gas and for test purposes. Natural gas only is distributed in Los Angeles during the greater part of the year. It was therefore necessary to secure a supply of manufactured gas for test purposes from some other source. It will be compressed in cylinders, shipped to Los Angeles, and there transferred to



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holders from which it will be piped to the various testing stations.

It was originally intended to make the Pacific Coast branch a preliminary testing and inspection station only, but by the time the laboratory was ready to function, nearly 100 applications had been filed by manufacturers of gas heating appliances for complete approval tests. Therefore, complete approval testing was decided upon as the course to follow. This procedure will result in considerable saving of time and money to manufacturers in the Western Coast area, and will enable the American Gas Association to be of much greater service to the industry in that territory.

PREFER MODERATE COST HOUSES

Actual home buying shows a strong preference for houses whose building cost is under the $5,000 mark. A price ranging from $6,000 to $6,900 for the home, land and building together, is proving the one now most popular. That is indicated by a study which has just been made by the National Association of Real Estate Boards of the most recent 10,108 home sales made by members of its Brokers Division.

The reports of sales were from 100 firms in 76 cities, supplemented by city-wide reports from six real estate boards. The reports are drawn from 26 states, the District of Columbia, and one Canadian Province. The houses sold included both new and old structures.

Homes sold (land and buildings) were divided into 18 groups according to their price range. Of the sales, 10.29% (1041 sales) were reported for the group with a price range $6,000 to $6,900. From this peak group the curve drops at once to the group of between $4,000 and $4,900 price range, in which were 1,008 sales, close to 10% of the total number. Then it goes back and gives third place to the group between these leaders, homes with a price range of from $5,000 to $5,900, inclusive, for which 988 sales were reported.

The largest incidence of sales, in fact 30.4% of all sales, were thus in the price range $4,000 to $6,900, inclusive. It is estimated that on an average from 20% to 30% of the cost of the home (land and buildings) is in the price of the land. This means therefore that the group of properties moving most rapidly at the present time are those in which the cost of the building ranges just under $5,000. Making a composite picture of the three highest groups it is seen that the range of most sales is of homes in which building values are from $3,000 to $5,000.

Even this is not all the story of present day preference for the small and inexpensive house.

Descending from the peak group the curve swings once briefly to the other side. The price range $7,000 to $7,900, inclusive, takes fourth place, with 845 sales. But the price mark $8,000 seems to be a line of demarkation. From this point the advantage is again with the cheaper houses. A price range of under $8,000 on a home (building and land) means approximately a range in which building cost or building value falls under $6,000. Sales in the groups under $8,000 in price total 5499. This is 54.37% or well over half of all sales.

OFFERS PRODUCERS A FEW REMEDIES

Clyde S. Paige, specification writer in the office of Robert H. Orr, architect, of Los Angeles, contributes the following to *Pencil Points'* discussion on the movement for more intelligent co-operation between the architect and the material man:

"My qualifications to enter this carousal consist of a modest 20-years' experience, from office boy to combination position of office manager and specification writer, specializing in interior decoration and absorbing acoustical treatment sales talks. It has been my fortunate experience to be exposed to illuminating lectures of manufacturers' representatives for the last six years, every Tuesday and Friday, hours 1-5 P. M., every hour in between on other days, and over the telephone whenever the lines could be cleared. I feel that my hours of 'solo flight' in the above matter justify my being permitted to harangue in this melee.

"Before getting hard on the subject, I desire at this point to pay my respects to the gentlemen who have, without thought of immediate gain, painstakingly talked, lectured, shown laboratory tests, quoted from the Bible and Shakespeare, exhibited cumbersome samples, drawn unreadable sketches, blown out the fuses in the office in demonstrations, handed me their cold perspiring hands, offered cigars, and used numerous other legitimate agencies to enlighten me in the possibilities of using the 1,000,000-odd types of materials now manufactured for the purpose of carrying out President Hoover's campaign pledge of better living standards for the American people individually and collectively. Truthfully, I admire the above-mentioned men, they have prevented me from becoming stale on the subject of materials and their potentialities. They have, through means and words, unsuspected by themselves, warned me of bad practice and wasteful methods that I have been guilty of in my part of the 'Building Racket.'

"However, at the end of each week, during my period of reflection over past events in the office, I sometimes wonder what the deuce all this sales palaver is about, especially after listening to and looking over myriads of sales data which has been

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presented in a manner showing a lack of correlated comprehension of building functioning and with a dearth of comparative installation costs data. I shall not go into detail concerning my pet peeves relative to inopportune 'phone calls for the purpose of clearing up year-old job reports in 'Dead' Jobs, and annoying conversation due to rehashed trade journal articles, nor do I resent being shown all the sales pictures of wonderful buildings designed by the great offices which make our office look so mediocre in comparison—it's all a part of the game as practiced at present.

"Further reflections bring to mind the numerous cases in which salesmen have been chilled and thwarted in their attempts to contact the office for their sales promotion duties, by means fair and foul, as practiced by our office and the thousands of other offices throughout 'the land of the free and the home of the brave.'

"With the above-mentioned conditions existing it is impossible to have the proper cooperation between manufacturer and the artistic fabricator of building materials, the architect, and this is very detrimental to all parties concerned, including clients, for whom buildings are erected.

"If I may be so bold as to presume that I could in any way suggest any cure for the above ailments, the following assumptions would be my prescription, for instance:

* * *

"IF I WERE A MANUFACTURER of Building Materials, I would court the attention of the architectural profession to the utmost by sending into the offices of said profession, for sales contact purposes, only representatives having had aesthetic and practical architectural experience as draftsmen in architectural offices, of such extent that they could use at least the elementary terms used to describe the relation between the products they were endeavoring to sell and the adjacent parts of the building into which said products were to be incorporated. I would engage this type of men because they can be had in any number, and with sympathetic sales managers to train them in the art of sales promotion, they could be developed in salesmanship to a degree far superior to the present types. As a manufacturer I would compile in condensed form, letter-file size, all data concerning my products translated into the language of the architectural profession, even to the extent of publishing special literature for said purpose, and said literature would contain ample detailed drawings for visual presentation accompanied by brief specifications. I would so mark my products that a simple system of number designation would identify same as to size, capacity, type, color, or similar descriptive

information that would eliminate the volume of words commonly required for such purposes. I would give considerable thought and ample space in presenting my product or products in Sweet's Catalog (The Architect's Bible) on building materials, and use mailing card reference to the effect that my products were listed in said Catalog instead of mailing out pounds of literature that is daily thrown into the waste basket.

"If I were the representative of a manufacturer of building materials I would know every detail concerning the manufacture, installation, local installation costs, limitations, and possibilities of new usages of the product I was selling or representing to all the profession. The ability to make a clear detailed sketch of any part of my product, and its usage, would be an essential part of my sales talk. The boresome display of endless sheets of 'Testing Laboratory Charts' and reports (we are wise as to how they are sometimes made), without request from the interviewed party, would be cautiously done by me. I would never use the telephone, except on interview days, for the purpose of just clearing out my files on job report lists. I would contact the key man in each office to see relative to the presentation of my materials, and know at what hours he received material salesmen and stick strictly to same. It makes a very favorable impression even on 'Dumb Dora' (the girl in the reception room). It would be an unbroken habit of mine to be supplied with my own estimating sheets, or scratch paper, and especially my own scale, so that when requested to step into the take-off room, I would not have to borrow same from the chief draftsman or other draftsmen. (Salesmen little realize how this affects their standing in the office.) It would be a point with me always to have some interesting picture, sketch, sample (not too large), or bit of news to spring outside of saying 'What's New,' with the party I was interviewing, especially if my calls were mostly for the purpose of general contact. Time would be the essence of the interview, and to get into and out of the office of the architect with the least loss of time to the architect would be a hobby with me.

* * *

"IF I WERE AN ARCHITECT, I would strive to have established in my territory (city, county, or state), uniform daily material representatives' interviewing hours—such, let us say, as 11:30 to 12:00 A. M. and 4.00 to 5:00 P. M. (The morning period for the purpose of accepting luncheon engagements at the manufacturers' expense, this is mercenary, but practical during depression times.)

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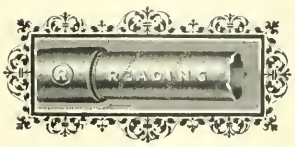

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"The entire staff would be expected to meet one full day each month for duties outlined above, and should be compensated commensurate with services rendered. The appointment of all members to the staff should be entirely in the hands of the architects above referred to. I suggest this checking bureau with the idea of eliminating producers' gossip concerning the comparison of their products with those of competing firms to lighten the embarrassment suffered by the architects due the material salesman group.

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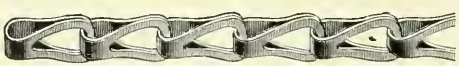

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"Millwork items," he said, "whether interior trim, doors or window sash and frames, are particularly important to the home buyer because they are conspicuous and not concealed parts of the structure. The remarkable strides made in the technique of veneer and plywood manufacture have had a direct application in the millwork industry. While in years past the public has from time to time had reasons to complain of poorly manufactured veneer and plywood items, these objections seldom refer to present-day practice of modern millwork plants. As a matter of fact, public appreciation of certain millwork items manufactured on the "built-up" principle is steadily growing, or perhaps we may say that plywood and veneer construction has been so satisfactory that few consumers ever know when

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the type of construction is employed."

The speaker discussed the work of the National Committee on Wood Utilization, and pointed out that the committee's recent publication, "How to Judge a House", has met with remarkable response from all branches of industry, and particularly from the consumers.

"This is the first time to our knowledge," he said, "that the story of how to judge a house has been told from the point of view of a group of consumers, and evidently in a satisfactory way, since the demand for this publication now exceeds 1000 copies a day. Other publications of the committee comprise a carpenters' handbook, endorsed by the United Brotherhood of Carpenters and Joiners as the best book of its kind in existence, and a handbook on wood construction, developed by and for engineers, architects, builders and contractors, which is already considered as the standard textbook on the subject, not only in this country but also abroad."

In concluding his address, Mr. Oxholm pointed out that his organization, being a co-operative body made up of representatives of the Federal government and industry, is carrying out a program of developing the most efficient uses of wood in construction. Many of these methods have now been developed and described in appropriate handbooks.

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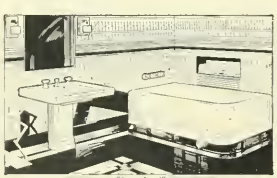

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THEATER AND SCHOOL STAGES

By DARIEL FITZKEE
of the American Studios

ALMOST five years ago I wrote a series of articles for THE ARCHITECT AND ENGINEER which resulted in many cases in marked improvement in school and theater stage design. Now, once again I shall take up the subject in response to requests for further information.

Probably the most frequently mentioned subject is projection and picture screens. This is because every stage—regardless of size—has provision for motion pictures.

The picture on a standard motion picture film is $\frac{3}{4}$ of an inch high and one inch wide, making the proportions of the projected picture three to four, height and width respectively. Thus a picture that is twelve feet high will be sixteen feet wide.

Of course, these measurements are only accurate if the projection lens is dead center as regards height and width of the screen.

With the lens located somewhat above center of the screen, as is the condition in almost all cases, the picture is slightly higher than this proportion, and it comes out narrower at the top than at the bottom. The distortion, as far as a picture is concerned, is negligible and is always ignored.

Sometimes an attempt is made to correct this distortion by tipping the screen backward somewhat. But the results in these cases serve no practical purpose.

The picture is squared up, however, by squaring the white projection space and allowing the uneven edges to overlap onto the black border. The edge of the white space then becomes the edge of the picture and the edge of the picture becomes invisible on the black.

Therefore, unless the angle of projection is sharp, it is just as

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well to have the projection space to the standard proportion — at least as far as schools are concerned. In the case of professional theaters the black border is put on after the actual projected space is marked off. However, the projection space, as I have said before, is squared up. This process is expensive and not advisable where economics must be exercised.

Now about the size of the picture: in all cases this is determined by its height.

For example: You have a proscenium height of twenty feet. You can figure that two feet at least will be lost in borders and valances. This leaves available eighteen feet. Figure that your picture will be off of the floor at least two feet and figure that there will be a two-foot border at the top and you have left fourteen feet. The maximum size then would be fourteen feet high and eighteen feet eight inches wide.

My allowance on the above for lost space because of maskings is very, very small. If your projection is above the center of the screen more space will be lost as the screen is moved towards the back of the stage.

Each case should receive some individual technical consideration. Were the above measurements for a school stage I am inclined to think that I should further reduce the screen to about twelve by sixteen.

Of course, the professional motion picture houses make their screens as large as is practicable, but this is because the screen is their stock in trade. Many things that one would do in a professional theater are not advisable in the case of a school auditorium.

* * *

Now one more thing and that is the screen surface: You hear a lot of talk about "silver screens", "azure white", and so on. Everybody has a right to his opinion.

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My own is that the whiter the screen the better. "Silver," or more properly aluminum, is gray in color and therefore the high lights are toned down considerably. The reflective properties of metal in the cases where long narrow auditoriums are to be considered are important assets.

But there is lots of distortion from a screen of this kind where the picture is viewed somewhat at one side.

"Azure white" means light-blue white. Artificial light is strong in red rays. Red rays turn blue to a gray. By turning the white surface to a blue-white you simply make it impossible for the screen to reflect back certain red rays. Red is necessary in making up a white ray. That is the reason that I think the bluing idea so effective in laundering shirts does not necessarily launder the screen.

If the screen is white—and the whiter the better—it can reflect back anything you throw upon it in the way of color. As you know there are several degrees of white. If due attention is paid to getting a good brilliant white, you have done your share towards providing good projection.

WHAT IS NORMAL?

To many minds, the transition from summer to early autumn in the year 1930 was attended by more than the usual number of disturbances, whether those of nature or those of human society. The truth is that the laws of nature are not this year much less normal in their working than in other recent years; and as for mankind, a survey carefully made would probably find that conditions are more favorable and stable than usual. As against this view of the present state of things, there are many thousands of people who could at once file a bill of exceptions, so to speak. They could offer a list of calamit-

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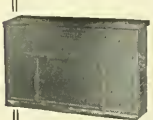

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ous occurrences in the realm of nature, and could then rapidly scan the news of the world by continents and by countries, to note various economic mal-adjustments and political upheavals. We should have no disposition to dispute their facts. On the contrary, we should be ready to compliment them upon the range of their information. We would, however, call their attention to what is really exceptional—the thing that makes this season different from its predecessors. That exceptional thing is the spread of knowledge and of awakened interest. There have always been hurricanes, earthquakes, droughts, floods, storms at sea, fires in forest or on prairie, regardless of the effect of these natural phenomena upon the inhabitants of the earth. But there has never been a time when such happenings have been so closely observed or so fully reported. On the one hand we find constant improvement in the means of communication: correspondingly, there is the spread of intelligence and the eager use of those means. We live in a world of interesting things: and although we may have the impression that current affairs are less normal than usual, it is our wider knowledge that makes life less monotonous. Never before was the cultivation of intelligence so generally possible or so abundantly rewarded.—*Review of Reviews.*

INTERESTS IN COMMON

A joint committee of the American Institute of Architects, the American Society of Civil Engineers, the American Society of Mechanical Engineers, and the American Institute of Electrical Engineers, has urged the harmonious co-operation of architects and engineers in seeking the enactment of legislation for safer and better building.

The committee recommends that the qualifications of engineers who are permitted to design and

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file building plans be more closely defined, and that architects refrain from sponsoring any laws which interfere with the filing of building plans by promptly qualified engineers.

"There is great need, in the interests of the public, to promote and foster sound legislation for better and safer buildings," the report asserts. "This need is a challenge to both our professions, and to meet it we shall require the most intelligent and wholehearted co-operation.

"Our interests in this respect are common and closely interwoven, and if we are to make our efforts count for genuine progress, it will be necessary for us to avoid conflicting representation to legislative bodies, and to maintain close co-operation and unity of effort.

"In considering the professional practice of the architect and the engineer, there is of necessity a certain overlap between the functions and responsibilities of the former profession and those of certain groups of the latter.

"With the growing need for more engineering in architecture and more architecture in engineering, it is becoming increasingly difficult to draw sharp lines to define this overlap and more necessary to establish and maintain cordial and sympathetic co-operation between the two professions.

"Lack of aesthetic quality in the design of buildings, may seriously injure their commercial value, and the safety and security of the property may be jeopardized as truly by bad aesthetic design as by unsafe structural design.

"A deteriorating effect on property values due to bad design, especially of exteriors exposed to general view, will be recognized as of increasing importance with the growth and cultivation of public taste. This fact led the committee to emphasize the great importance of fostering a feeling of

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interdependence between the professions of architecture and engineering and a realization of the need of proper collaboration on most building operations.

"In drafting laws it has been found relatively easy to define the scope of the architect's qualifications and practice, but those of the engineer, as set forth in many of the existing registration laws, are so broad and diversified as to require in certain respects more detailed definition in the interest of law-makers and the lay public.

"At the same time, the members of both professions recognize the essential unity of engineering science and practice, and endorse the efforts of the engineers to maintain the solidarity of their profession, and to resist any tendency to break it down into separate groups.

"To this end the committee approves the policy of having one general registration for professional engineers just as there is a similar general registration for architects, and recommends that any differentiation between engineers required to meet the needs of the lawmakers and of the public be effected by the requirement of special qualification under the basic registration laws rather than by the establishment of separate groups under special legislation."

THUMB TACKS AND T-SQUARES
[Concluded from Page 15]

ings from this army of approximately seven thousand producers. It can be seen at a glance that millions of contacts between these two great armies are necessary each year. The architect and the important men in his organization need, and in the conduct of their work must secure, a tremendous amount of information about the various products offered for their consideration. The producers must maintain contact with the architects' offices if their goods are to be bought and used.

There would seem to be sufficient evidence of the need of just such an organization as the Producers' Council whose mission is

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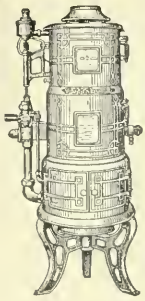

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to bring about a better understanding between the producers and salesmen of building materials, the architects and the public. As a matter of fact, the manufacturer knows a lot of things about his material which he wants to tell to the architect, and the architect, on the other hand, frequently knows things about that material that the manufacturer does not know.

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AUGUST, 1931

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The *Architectural Forum* has lately been conducting a symposium on "What Constitutes Good Architecture". Some of the answers are interesting, indeed. A point of view not taken by most members of the profession is offered by George Gove of Tacoma, Washington, who writes breezily as follows:

"Good Architecture? We are just licking our own fur like contented cats when we think or talk or write comfortably. Might it not be more practical for us to inquire: First, why our buildings are not good; second, if we can make them good; and third, how to go about creating Good Architecture?

"Do we not yet realize that usually our buildings were poor because the financial and social system (or lack of system) under which they were built is economically unsound? How can there be much good architecture produced beneath the burden of exploitation all along the line? If the factor of exploitation could be removed from construction, would there not immediately develop a new Renaissance?

"Cogitating the second question, will we not be led to face frankly and try to overcome our own stupidity and laziness and ignorance, and to consecrate ourselves daily to the service of humanity as expressed in good building?

"And then the third poser,—'Aye there's the rub.' Is not the question rather a call to leadership than to retreat? Had the Dane boldly proclaimed himself Dictator and proceeded to rebuild the rotten state, might not his name have been remembered for success instead of for futility?

"Whom else than its Architects has America today to look to for constructive thought? Have our military commanders, or our clergy, or our politicians, or our teachers, or our financiers, shown us who poisoned King Progress, once ruler of this most glorious State? Has one of them a set of plans and specifications for a better organized commonwealth?

"Are not Architects fitted by their nature as dreamers and their experience as executives to organize all the producers of whatever nature into a new party—not so much political as economic—the Constructive Party? Do they not constitute the only group that has ever visualized, even faintly, the possible development of our nation? Did they not study it in their school projects for ideal buildings and in their city planning schemes? Have they not proved their ability more convincingly than in these schemes by the fact that under heavy burdens they have nevertheless sometimes built fairly well? And are Architects not the only group fitted by practice to spend big money economically? — to visualize the recovery from our depression in a comprehensive way?

"If the American Institute of Architects could or would call together master craftsmen of all kinds from the provinces of engineering, finance, labor, transportation, material manufacturing, — and after due consultation,—proceed with the interrupted building on a foundation as wide as our country, or even as the world,— and organize and carry on a program of road building, city reconstruction, farm house remodeling, power and light distribution, reclamation, education, penology, hospitalization, music and amusement, recreation and religious inspiration,—would not such a denouement demonstrate the power of constructive ideas? How could it be done, do you ask? How was the war waged, I counter. Leadership, enthusiasm, an ideal. . . . . Or will we continue to fight in the grave of dead love as did the Melancholy Dane?"

⁂ ⁂ ⁂

AN example of architects cutting their fees was recently given considerable publicity by the Sacramento papers and those who feel that the profession should hold to a livable fee will undoubtedly find the following newspaper article of interest:

"Jens C. Petersen, architect, was chosen by the Sacramento City Board of Education to draw the plans and specifications for the new manual training building at the Sacramento High School, which will replace the former structure destroyed in a fire a month ago.

"Peterson submitted a bid of 3½ per cent of the cost of the project for architectural fees, whereas six other architectural firms presented offers of 6 per cent and one offered to draw the plans for 5 per cent.

"The Board of Education, meeting in special session, engaged in a lengthy discussion on the architects' bids. Dr. A. M. Henderson finally opposed the award to Petersen, contending it is "a mistake to consider such economies in building."

"E. J. Woodburn, business manager of the school department, estimated the building, exclusive of equipment, will cost about $40,000. He said the amount of insurance money from the old building and equipment will approximate $70,000. Salvaged equipment will amount to between $25,000 and $30,000.

"Petersen's architectural contract stipulated he shall have preliminary drawings completed in seven days, when the board will probably meet in special session to approve them. Fifteen days after that, the contract provides the architect must have working drawings completed so contractors' bids may be invited. These bids must be advertised for three weeks, so it is unlikely construction of the new high school building can be started for at least six or seven weeks.

"In awarding the architectural contract to Petersen, the board accepted his promise to give personal supervision of construction work.

"Eugene Seadler presented a bid of 5 per cent, while 6 per cent offers, the usual fee asked by architects, were made by Starks & Flanders, W. E. Coffman, Harry J. Devine, Fred Harrison, George C. Sellon and Chas. F. Dean."

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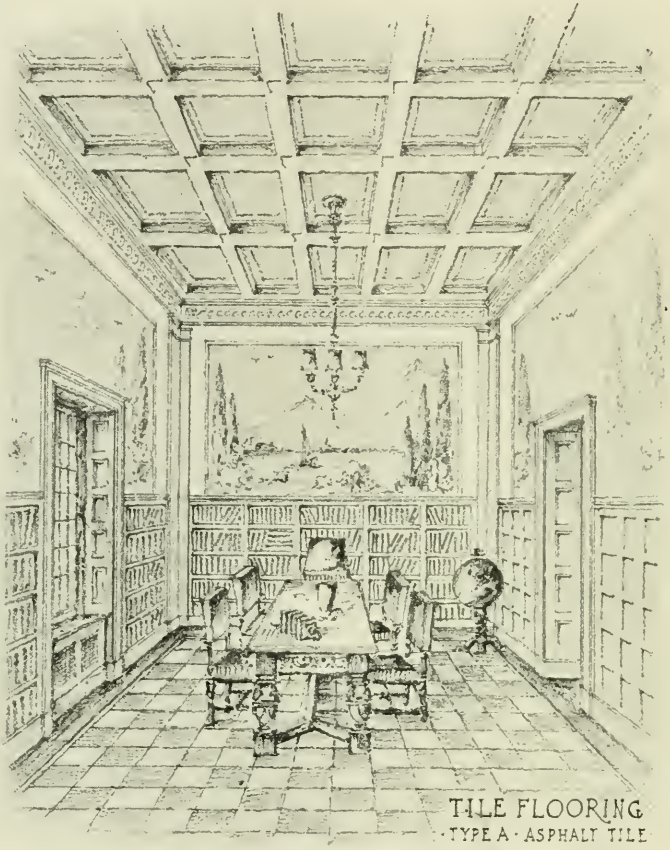

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AUGUST
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Photo by Moulin

HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE, CALIFORNIA
KENT AND HASS, ARCHITECTS

THE
ARCHITECT
AND ENGINEER

AUGUST 1931
VOLUME 106
NUMBER TWO

WESTLAKE—A COUNTRY HOME AT LAKE TAHOE, CALIFORNIA

by FREDERICK HAMILTON

APPROACHED from the highway, as you pause before the massive piers of the entrance while the heavy gates are swung open, or if it be your good fortune, as a guest, to be called for at the Pullman vestibule and then aboard the motor boat "Barbara" you glide over the short distance of clear lake water, sparkling in the early morning sun, and see "Westlake" from the boat landing, you realize that here is the setting and the house combined as they should be. One the background—the other its complement. The man-made "improvement" rising naturally out of the earth and rock, built of the same stones and trees which surround it, gable, ridges and chimney top piercing the clear blue sky under the tree tops, just as the stony shoulders and flint ledges of the Sierras silhouette themselves between rugged pine and tamarack.

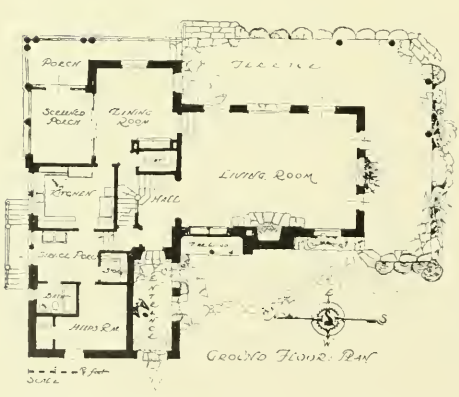
Seemingly growing out of the very ground, the lower courses of stone in house, garage, or boundary wall, all are of huge weathered moss-covered granite, many of the blocks blackened probably by the smoke of Indian camp fires which glowed long before white men blazed their highways over these altitudes. Gradually, as the walls rise, deep browns and reds take the place of the more sombre tones below until toward the top of this tapestry of "painted rocks" the more delicate tints of buffs and yellow ochre catch the first rays of morning sun from the Nevada shore across the lake, or the last golden sunset glow cast down from the tree tops and jagged ridge on the west.

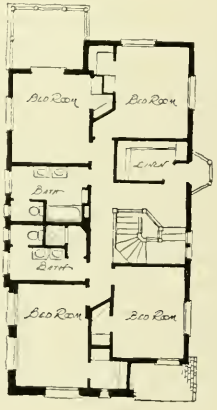
While these beautifully laid walls of "painted rocks" (natural colored stone obtained in vicinity of Squaw Creek) are by far the most interesting feature of the house, no less thought and feeling have been given to the rest of the materials making up the remainder of the structure. Red cedar siding of random widths cover the walls of the second story portion and natural slates of beautiful dark green and purple hues, with thick, ragged butts starting at the low eaves, cover the steep pitched roof areas, matching the rough texture of the stone walls over which they hang.

Deep set in these walls, the thin web-like muntined windows of steel and clear unblemished glass give answer from within to the brilliant vistas of water, sky, trees and distant snow capped peaks.

Coming to earth again, the architects have taken from nearby ledges of stratified rock the hard flint-like flag stones for ter-

HIGHWAY APPROACH, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects





PLANS, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE, CALIFORNIA
Kent and Hass, Architects

ENTRANCE FRONT, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects

LAKE FRONT, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects

LIVING ROOM, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects

DETAIL OF FIREPLACE, HOUSE OF MRS. LAURA B. WESTPHAL, LAKE TAHOE
Kent and Hass, Architects

races, porch floors and paths. Set in natural cement, these odd shaped, warm brown, smooth stones make excellent paving of a very permanent nature and laid in the sod with nature's green carpet and wild flowers for a garden, the stepping stones lead through the grounds from house to well head, picnic table, barbeque pit, or perhaps to some cosy retreat among the delicate aspins where a fountain splashes. Careful selection of these ledge stones where the exposed edges had gathered the moss of ages, provided interesting effects for window sills and wall copings. These large slabs set on stone pedestals make an excellent outdoor picnic table, four feet by twelve feet long.

At the edge of the terrace facing the lake, large halved cedar tree trunks with the bark left on and the tops sawed even and smoothed, form a broad flat seat and rail. Sealed tamarack logs of varying diameters have been skillfully used for porch and balcony railings, awning supports, fences and trellis work, while the entire wharf, breakwater, and boat shelter (except roof and plank flooring) were designed for use of this adaptable natural material.

Reluctantly leaving the many other fascinating features without and entering under the stone arched porch and through the old oak door into the entrance hall, one pauses. Taking in at a glance the immediate detail of the massive log stair hall and through the broad log beamed opening a glimpse of the spacious living room with its stone side wall supporting the heavy hewn trusses and ceiling beams, and the sturdy character of the furnishings and rugs solidly set on an oak plank floor of wide random boards, one has the feeling that here, again, structure and movable things fit their place and all have an informal balance and order.

Where stone exterior walls occur, the interior surfaces are also stone, but here color has been introduced in the mortar joint, while the exterior joints were subdued to obtain a dry wall effect. The remaining interior walls are covered with white pine (knoty) boards and flush moulded battens. Careful thought is evident in the finish of these wood walls, as those occurring in rooms with stone walls have been stained to match the general stone color, while the others principally in the second story hall and bed rooms, have been left in their natural wood color, but lacquered to preserve the surface. Practically all interior wood is either hewn or sandblasted. These interior effects, with their absence of plaster and tile, make one feel sure he is not in a city house.

However, all the modern home conveniences are here, for when you penetrate into kitchen, bath rooms, basement, etc., you find automatic first aids to a complete enjoyment of living in the great outdoors of lake and mountains. Summer or winter, this home is built solidly, insulated against heat and cold, to endure through the ages.

The building of "Westlake" was brought to its successful realization by Larsen & Larsen of San Francisco, as managers of construction, cooperating with Messrs. Thomas J. Kent and Andrew T. Hass, architects.

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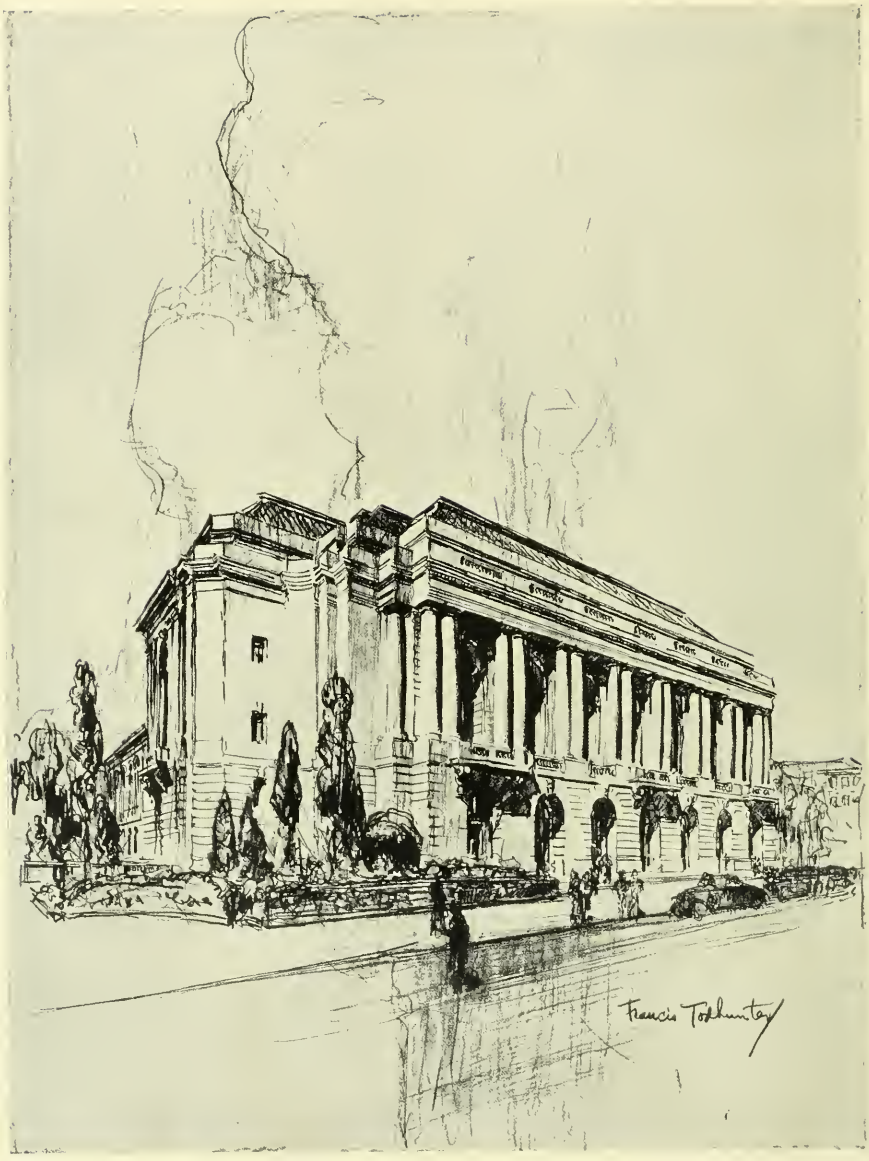

VETERANS AND MUSEUM BUILDING, SAN FRANCISCO
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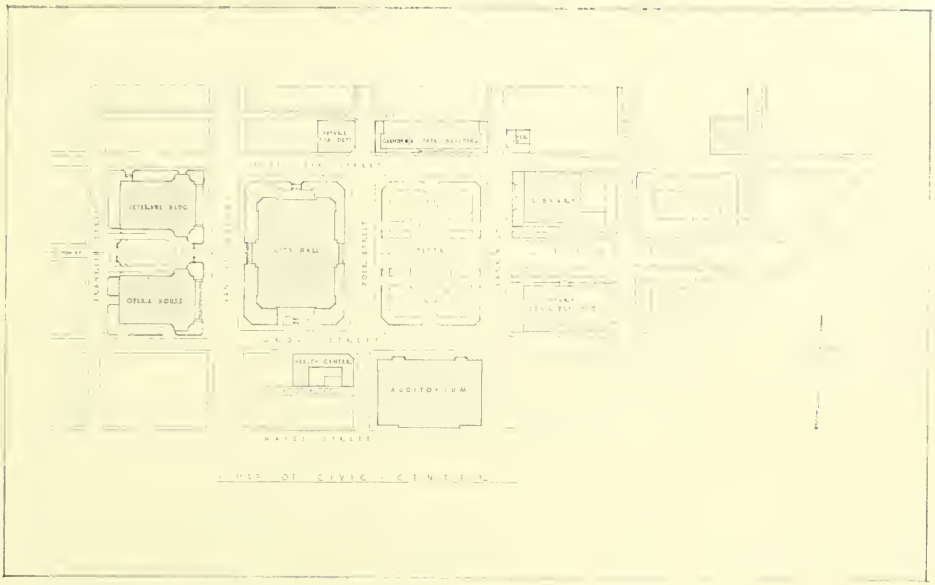


PLOT PLAN, CIVIC CENTER, SAN FRANCISCO
Note Correct Placing of All Contemplated Buildings

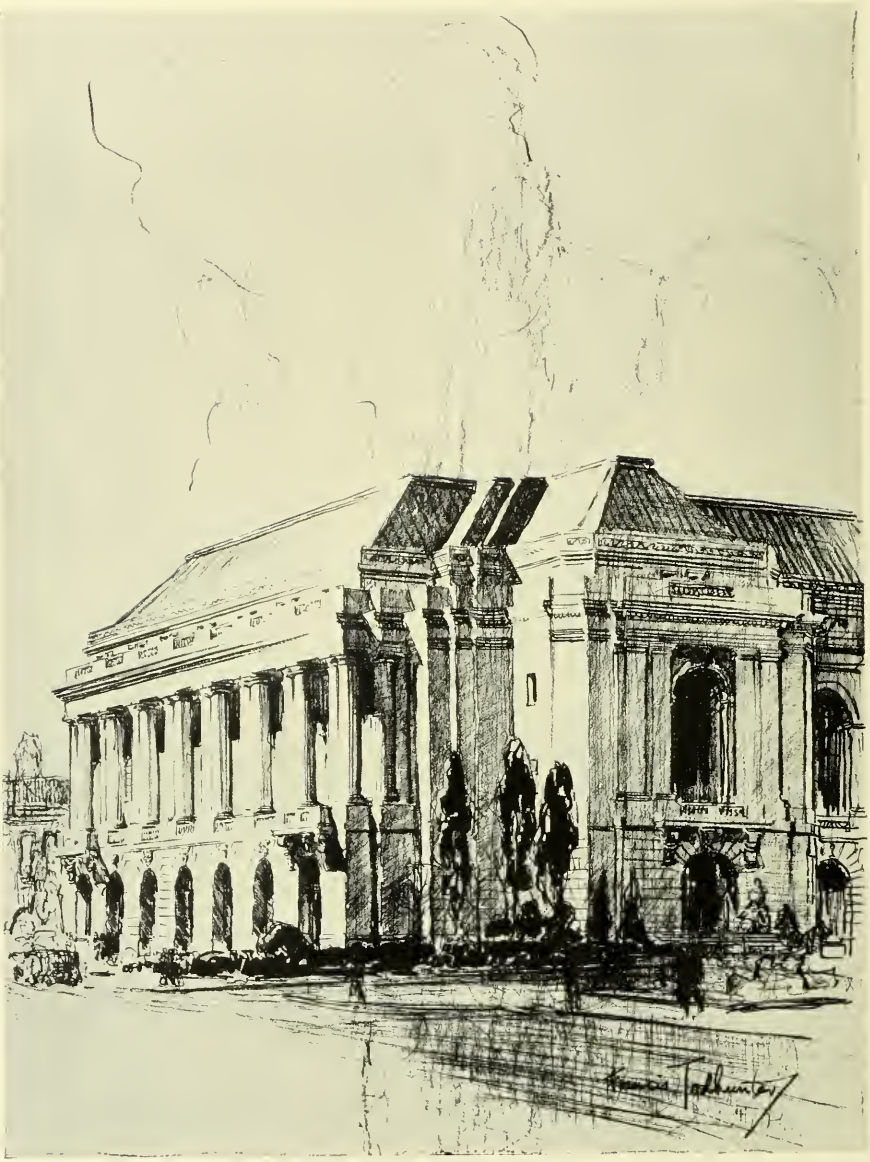
THE SAN FRANCISCO WAR MEMORIAL

by E. N. KIERULFF

THE dream that one day San Francisco would have an adequate Opera House and take her rightful place among the cities of the world who boast their love of the finer things in music, appears to be no longer a vision but a reality, for the foundations are underway, contracts for much of the construction material and mechanical equipment have been let, and in due time the long waited for War Memorial will be added to the city's one really fine monument—the Civic Center.

Two buildings comprise this Memorial, the Opera House proper and the Veterans Building, separated by a wide court which makes use of the termination of Fulton Street. The buildings will be of monumental scale, each having a frontage on Van Ness of two hundred thirty-one feet overall and a depth of two hundred eighty-two feet on the west axis.

Construction will be steel frame, reinforced concrete walls and floors with terra cotta and granite facing. The interior of the Opera House will be ornamental plaster and the writer has been assured that good taste in this direction will be paramount. In the Veteran's Building the same finish will be used with the same discretion in taste throughout. In all buildings of this type the heating and ventilating are two factors of the utmost importance. Thus these two new additions to San Francisco's galaxy of public structures will have the finest type of air-conditioning and direct and indirect radiation that can be installed. Likewise the balance of the mechanical



OPERA HOUSE, CIVIC CENTER, SAN FRANCISCO
ARTHUR BROWN, JR., ARCHITECT; G. A. LANSBURGH, COLLABORATING ARCHITECT

PROPOSED - FEDERAL - OFFICE - BUILDING
- SAN FRANCISCO - CALIFORNIA -
- JUNE 24 1931 -
- ARTHUR BROWN JR - ARCHITECT
- 251 KEARNY ST - SAN FRANCISCO -

FEDERAL OFFICE BUILDING, CIVIC CENTER, SAN FRANCISCO
ARTHUR BROWN, JR., ARCHITECT

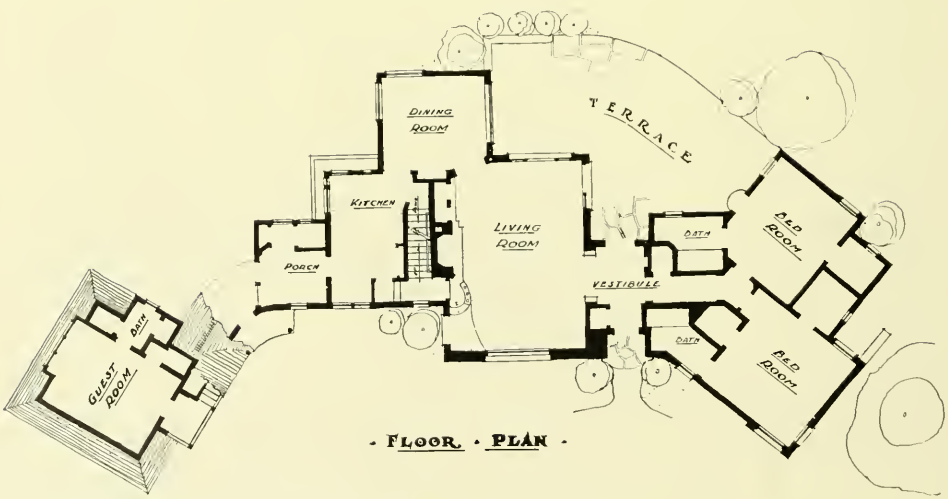
equipment will be of the highest quality and as it will be called upon to perform with the minimum of friction and delay, this choice is a wise one.

The court dividing the two buildings is to be developed along the most pleasing lines and it offers possibilities for the display of something really fine and creditable. It is to be hoped that this splendid approach to two outstanding buildings will in no wise be allowed to suffer the effects of poor taste or misplaced judgment, as so often happens, thus marring and detracting from what could and should be a perfect ensemble.

The auditorium of the Opera House will seat in the neighborhood of 3300 persons and there will be ample and pleasing promenade space on all levels, with excellent cloak and rest room facilities. In the Veterans Building there is to be an auditorium seating 1100 persons and there will be committee rooms, lodge rooms, banquet halls, exhibition galleries and all equipment necessary to complete one of the finest of this type of building. The auditorium will have a tilted floor which will enable it to be used as a huge ballroom.

So it has come to pass after years of strenuous effort, San Francisco is soon to open to her public and her visitors, a War Memorial worthy of her people who rest from their labors of the war and whose memories are deserving of this patriotic testimonial.

RESIDENCE OF HARRY EAST MILLER, JR., ATHERTON
W. R. Yelland, Architect



PLAN, RESIDENCE OF HARRY EAST MILLER, JR., ATHERTON
W. R. Yelland, Architect

SKYSCRAPER ADVANCE REFLECTS AMERICAN PROGRESS

by GEORGE T. MORTIMER

IN a college entrance examination recently, an optional test was to write a short essay on how automobiles have affected human lives. No contestant selected it, as none of the boys could imagine what life would be like without automobiles. Similarly, when one sails into New York Harbor and sees the glittering coronet of tall buildings that Manhattan wears, it is hard to realize that these stupendous structures have not always been there, and yet, most all of them have been erected during the quarter-century and a majority of them during the last decade. Still, this has given enough time to form judgment as to their practicability and to draw certain lessons. The conclusion is that they justify themselves economically and that we are on the threshold of still greater building development.

The word "skyscraper" was probably invented by some newspaper writer, but it was first mentioned in Maitland's American Slang Dictionary in 1891 and refers to tall buildings constructed on steel skeletons. Before their advent, there was hardly any radical improvement in building construction from the days of the pyramids, the Colosseum or St. Peters. It was a matter of piling stone upon stone with height definitely limited by the ever-increasing thickness of the first story walls. Architectural growth in this country received marked impetus from the Centennial in 1876 and the World's Fair in 1893. Some of these large office buildings erected at and before that time still stand, notably the Monadnock in Chicago. This building and others of about the same size, such as the Rookery Building and the Masonic Temple Building in the same city have floors and interior walls supported by a metal framework; but the outer walls are solid, self-supporting masonry.

EMPIRE STATE BUILDING, NEW YORK
102 Stories High

The skyscraper is completely an American creation. Just as the use of steam for power inaugurated our industrial age, and the application of electricity lifted it to its present pinnacle, so the discovery of steel by Bessemer in 1855 and its introduction in this country in 1880 revolutionized the building industry, and high-speed electrical elevator service added those facilities that were needed to make an architect's dream a reality.

A long while ago, it was written in Ecclesiastes, "Is there any thing whereof it may be said, See, this is new? It hath been already of old time, which was before us. There is no new thing under the sun." Electricity derives its very name from the Greek word meaning amber, which when rubbed produced it. Nero had an elevator in his golden house. Ancient structures in Rome have been found that had shelves of wood filled in with stone. An old house in Providence, recently torn down, proved to have an outside facing of stone tied to a wooden frame with iron bolts. Langley's "folly" was absolutely sound in principle. Progress is merely the fitting of superior material into old patterns. Dan Moran's airlock made deep foundations possible; Bessemer's steel and suspended elevators are responsible for our tall buildings.

The Tower Building, erected in 1889, was the first skyscraper in New York. It stood at 50 Broadway. It was eleven stories high and was considered a most daring innovation. If, as Jonathan Smith said, "He was a bold man that first eat an oyster," it took considerable courage to make one's home in the first skyscraper. Who knew that this adventuresome building could withstand the wind, that it might not become charged with electricity or that it would not collapse under its own weight, or disintegrate? Nobody, yet. And so, the Tower Building languished. In this case it was said that the brave man's name was Stein. "I'll have my office there and my house on the roof," he announced.

The timidity of the old-timers gave way before the enthusiasm of the pioneers and the era of tall buildings was open. Starting twenty-five years ago with the Trinity Building, and ending with the Manhattan and Empire State, skyscraper construction has made an advance which typifies the tremendous stride of American progress during this generation, and especially since the war. For some time, the World Building with its gold dome dominated lower Manhattan. Then came the Singer, the pioneer of the great structures that now rise like palisades beside the rivers of humanity flowing through the financial district. Then the Metropolitan at 23rd Street, the jeweled forefinger of the city pointed uptown. Following that, was the Woolworth which still remains a classic in grace and beauty. The tower of the Cathedral of Malines in Belgium, built before Columbus discovered America, was the pattern for the Woolworth Tower.

Twenty years ago, men of vision were predicting the height to which our present buildings would ascend. Early in 1911, Paul Morton, then president of the Equitable Life Assurance Society, had plans prepared for a building sixty stories in height. Inspired by this announcement, a well known architect said, "Why stop at sixty; why not go to a hundred," and to back his contention, he prepared a sketch plan and brought it in for me to see. At the Building Managers' Convention at Cleveland in 1911, I made an address and told about this. The news was sent over the wires by the Associated Press, and I received clippings and cartoons from every country in the world. I still have over fifteen hundred of these clippings somewhere in my collection.

The idea seemed fantastic and the architect was ridiculed. I think he later denied that he had ever prepared such a sketch. At least one New York paper published a full sheet picture in colors showing what such a building would look like and advertised the article widely.

The elevator was what made the skyscraper livable. Without it, six stories was the greatest practical height. The fine old Fifth Avenue Hotel, in 1859, as its rarest attraction, possessed a "lift." It was a cab, set on a screw, propelled by a steam engine, and snailed its way up to the delight and

SAN FRANCISCO
PUBLIC LIBRARY

astonishment of the guests of that fashionable hostelry. The Equitable Life Assurance Building, built in 1868, was the first office building to have a suspension passenger elevator.

Now the ingenuity of the architect is heavily drawn upon to prevent the modern tall structure from becoming a chimney for elevators. Architects think that the Manhattan Company edifice at 40 Wall Street has handled the elevator question extremely well, and the newest plan of double-decked elevators will be installed by the Otis Company in the proposed new Cities Service Building. "This type of installation," says the Otis people, "will obviously save the cost of the space required by an additional hatchway throughout that portion of the building served by this type of elevator. The space saved by each of the elevators on each of the floors will be considerable."

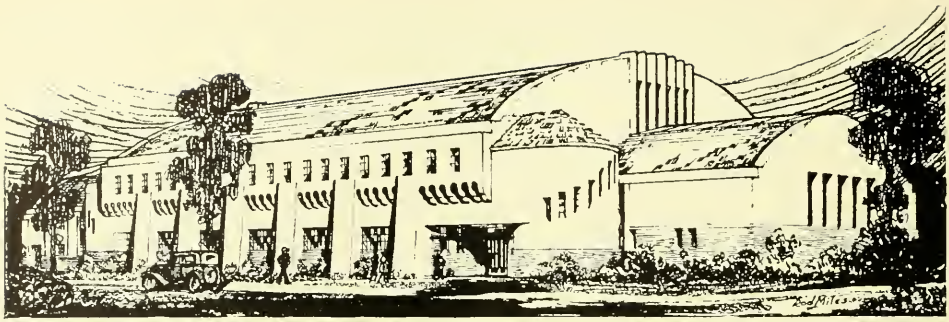
Critics have felt that streets are too narrow to hold the people who would come out of them; but fortunately only an armistice celebration brings all the people out on the streets at the same time. And so the buildings ascend until the great Empire State, which stands as a sentinel over the world's largest city, has risen to a height of 1,252 feet or one hundred and two stories in all. How much further this type of construction can go is a matter which no one would dare to predict. Too many factors are involved and the recent announcement that artificial sunlight can be economically produced and the present successful use of "conditioned air" in our moving picture theater and department stores, leaves limitless fields for the imagination.

What does the skyscraper teach us? According to Charles F. Noyes, who is an authority on rentals, the skyscraper is an economic success. The lessons that have been learned are simple. The Flat Iron Building, one of the oldest skyscrapers in New York and one which received international publicity when it was erected, has not been as great a commercial success as others, due to its island position. The same is true of the Times Building and the old Herald plot. People do not like to cross crowded streets, and will avoid it when possible. Accessibility is as much an item in this class of structure as in any other.

One of the great advances has been the art of maintaining a tremendous building in a state of efficiency, pleasing tenants and creating atmosphere. Many buildings are successful because they are nationally known, such as the Maryland Trust Building, Baltimore; Boston Safe Deposit and Trust Company Building, Boston; Prudential Building, Buffalo; Fidelity-Philadelphia Trust Company Building, Philadelphia, and the Russ Building, San Francisco.

Twenty-five years ago, a few isolated high buildings in New York and Chicago were managed mostly by real estate agents who carried on a general business including everything from placing orders for coal to drawing legal papers. There were but few so-called Building Managers. Now all this is changed. The emergencies of the situation have produced the expert, properly known as the Building Manager. This new profession has thrived and grown until now the Building Manager is accepted as an essential factor in the commercial life of the community, of as much importance as any other of our industrial leaders. His qualifications have been thus stated by the late James E. Randell.

"He must fill the position represented in motion pictures by a well-dressed man in a plug hat, with low brows and gnashing teeth, demanding the rent in spite of the tenant's adversity. He must have the diplomacy of a salesman in order to sell space. He must have executive ability in order to be able to organize his working forces to best advantages. He must be a draftsman in order to hold his office divisions to the most economical proportions. Familiarity with plumbing fixtures must be part of his education. He must have knowledge of building materials, tile, plaster and carpentry work. He must know a little about engineering and the qualities of coal and steam. Ventilation calls for his study. And, above everything else, he must possess the faculty for paying dividends."



GYMNASIUM FOR STATE TEACHERS COLLEGE, SAN JOSE, CALIFORNIA
George B. McDougall, State Architect

PLAN, STATE TEACHERS COLLEGE, SAN JOSE
George B. McDougall, State Architect

Portfolio of

ETCHINGS

by

CHARLES ORSON HORTON

MISSION CARMEL

THE HOUSE ON THE HILL

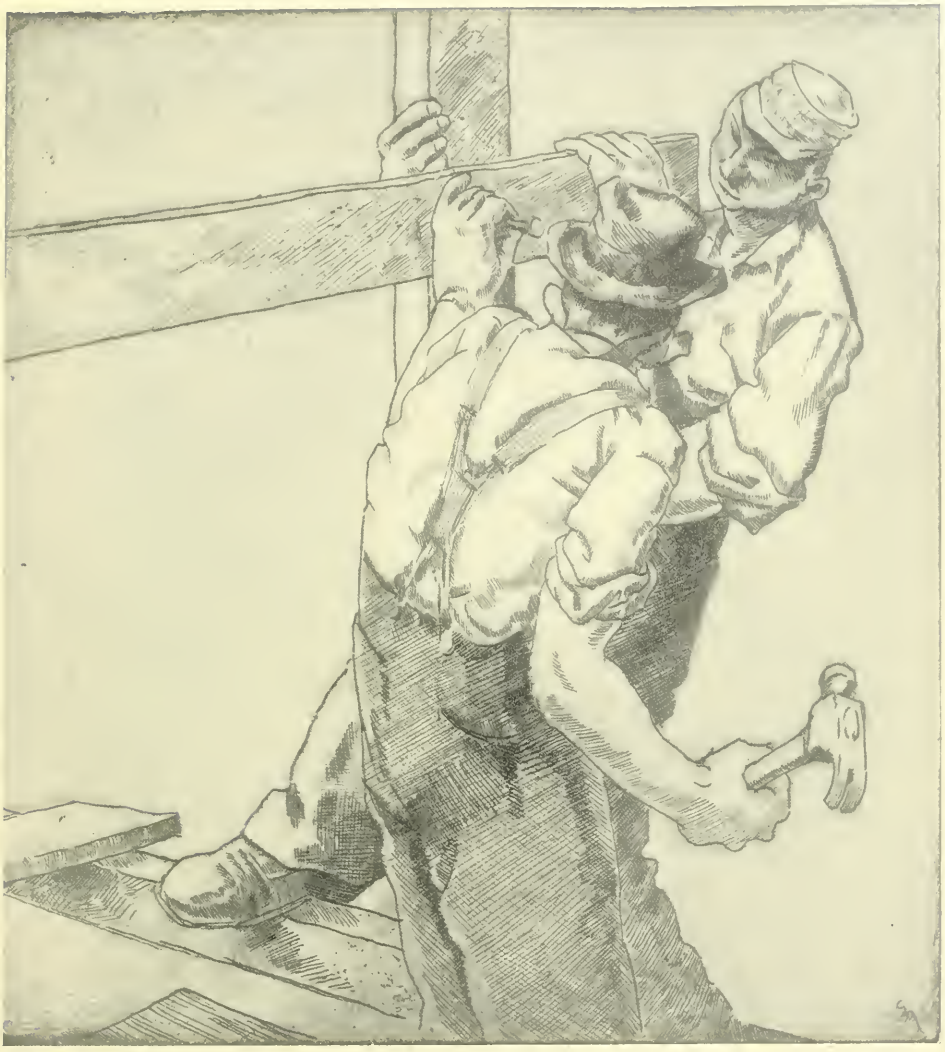
Etching by Charles Orson Horton

NO HELP WANTED

Etching by Charles Orson Horton

ACROSS THE TRACKS

Etching by Charles Orson Horton



PINE

Etching by Charles Orson Horton

ALL SAINTS CHURCH

Etching by Charles Orson Horton

ALTA MIRA HOTEL, SAUSALITO, CAL.
Fabre & Hildebrand, Architects

(Above) Entrance Front

(Left) Lounge

HOTEL AND THEATER BY MESSRS. FABRE AND HILDEBRAND

TWO buildings recently completed by Fabre and Hildebrand, architects, of San Francisco, are illustrated in this number. One of these, the Alta Mira Hotel at Sausalito, Marin County, replaces an old land mark razed by fire in 1929. The fan-shaped structure has a unique setting in the picturesque Marin hills with pleasing outlook from practically every room.

A maximum amount of sunshine is an added asset to the hostelry—a three-story re-inforced concrete building with fire resistant, double sound proofed floors and walls, steam heat, polished maple floors for dancing and a radio in each guest room. The dominant notes of the Alta Mira are its distinctive simplicity and dignity. The general principals of Florentine-Italian architecture have been successfully adapted to the topography, climate and needs of American life. The building has one entrance on Harrison Street, but the main entrance is by the garden from Bulkley Avenue through an arcaded loggia. From the vantage point of this spacious and sheltered loggia one of the magnificent views of the Bay, for which the hills of Sausalito are famous, is to be had. The new hotel, set in its charming hillside surrounding, will impress one with the change which the boosters of marvelous Marin have wrought in an old song. As sung by the Italian bard it went "See Naples and Die", but "See Marin County and Live" is the modern way.

While the exterior of the hotel is of imposing design, it is within its walls that one is arrested by the appeal of surroundings—a subtle charm of appointments and architectural form that suggest a sense of warmth, comfort and individual beauty.

In the near future it is the intention to build an annex to the South of the present building containing rooms with baths and a social hall on the first floor.

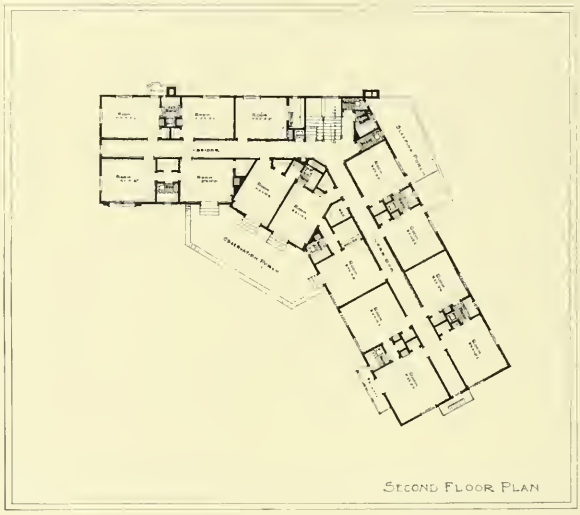
Separate cottages will also be built around the grounds on the order of those at Del Monte and the Ambassador Hotel, Los Angeles. (See Airplane View.)

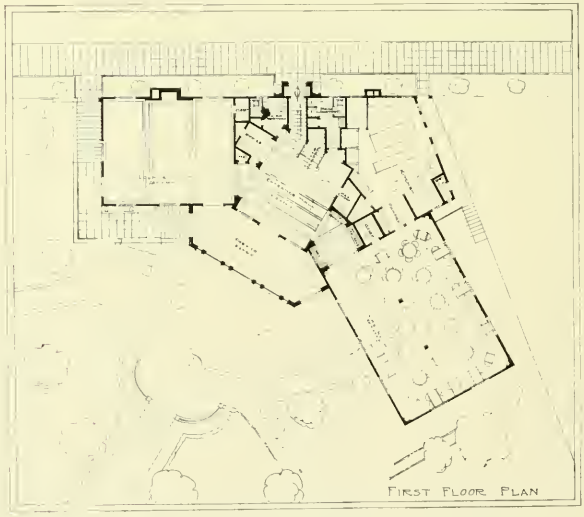
One of the great attractions of the Alta Mira site are its trees and shrubbery. Besides rare specimens of eucalyptus, Irish Yew trees, rubber trees, Monterey, Italian and Lawson cypress, there are huge magnolias and colorful flower beds scattered throughout the grounds.

* * *

In the new Uptown theater, San Francisco, Messrs. Fabre and Hildebrand, have successfuly combined the early Spanish style with the new forms of California architecture. There are gay colors, jazzy patterns, bright patches of light and unusual details everywhere to interest and please the theater patrons.

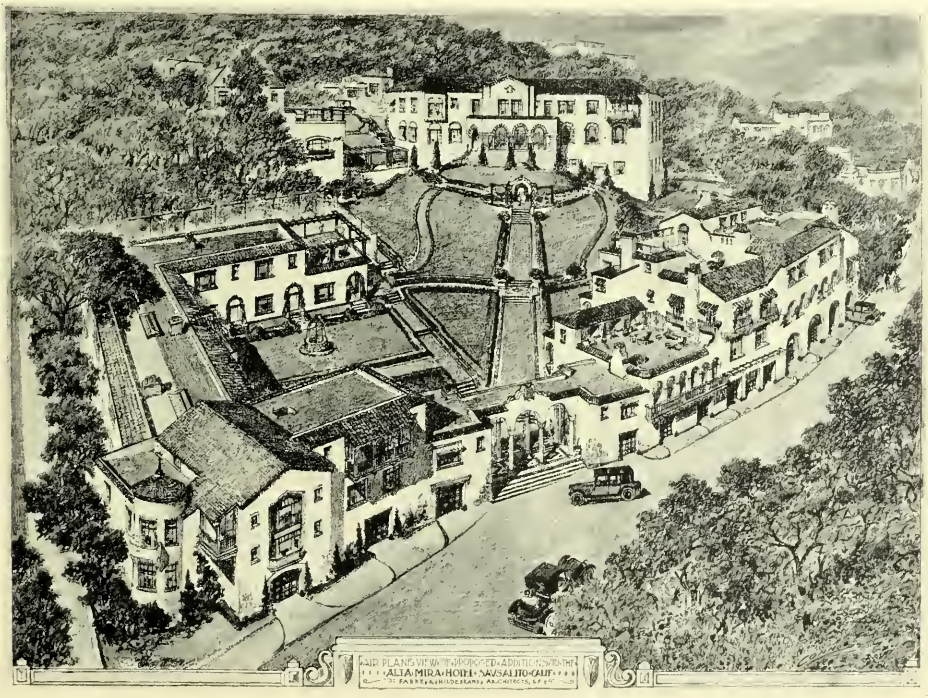
Beautifully wrought iron lighting fixtures, heavily padded carpets, luxuriously





PLANS, ALTA MIRA HOTEL, SAUSALITO, CALIFORNIA
Fabre & Hildebrand, Architects

OBSERVATION PORCH, ALTA MIRA HOTEL, SAUSALITO, CALIFORNIA
Fabre & Hildebrand, Architects



AIRPLANE VIEW, ALTA MIRA HOTEL AND PROPOSED ADDITIONS, SAUSALITO
Fabre & Hildebrand, Architects

STAIRCASE TO MEZZANINE, UPTOWN THEATER, SAN FRANCISCO
FABRE & HILDEBRAND, ARCHITECTS

INTERIOR, UPTOWN THEATER, SAN FRANCISCO
Fabre & Hildebrand, Architects

furnished dressing rooms and a mezzanine lounge extending the entire width of the theater, are some of the interesting details.

The mezzanine lounge is generously equipped with restful furniture for the comfort of waiting patrons. Stairways at either end connect the lobby and mezzanine, although it is not necessary to pass through the mezzanine to approach the balcony and loge section. Short ramps lead directly to the forward part of the balcony, the entire lower section of which is devoted to wide, deeply upholstered loge chairs.

From the loges an impressive view is obtained of the interior. The Uptown being atmospheric, much attention has been given to sky and lighting effects. The camouflage of open sky, airy distances and the substantial character which has been given the construction of picturesque houses, which comprise the side walls of the theater, has been achieved with much realism. The audience would seem to be seated in an open court, surrounded by adjoining tiled roofed structures with decorative balconies. There are arched promenades or covered passageways at either side of the main auditorium.

JOHN GALEN HOWARD, ARCHITECT, TEACHER and POET

JOHN GALEN HOWARD, Professor of Advanced Design at the University of California, founder and for many years Director of the School of Architecture there, died suddenly in San Francisco early on the morning of July 17th from an affection of the heart. His abrupt end while in the ripeness of his powers leaves his associates with a sense of loss that is heavy indeed. Though concerned officially with a relatively small group of older students his influence permeated the entire fabric of the school; it was the ambition of the greenest student to "stay on" till he might have a semester at least with Mr. Howard. His serene presence on the faculty has been through the twenty years of my membership a constant source of inspiration and refreshment. It might truly be said of him, as of Emerson's great man, that he served merely by *being*, almost more than by his great accomplishments.

While Mr. Howard—and it is significant that it was always "*Mr.* Howard" with all the force of an endearment—of late years found himself so completely at home in the teaching of architecture, this was but a part of his life work since he was first of all an architect, as well as a teacher and a poet, and gained distinction in all.

Born at Chelmsford, Massachusetts, in 1864, he studied at the old Boston Latin School, the Massachusetts Institute of Technology and at École des Beaux Arts under Laloux. His apprenticeship in the practice of architecture began with H. H. Richardson and continued with McKim, Meade and White, after which, while still very young, he opened his own office in New York. From this earlier period date such buildings as the Hotel Renaissance and the Hotel Essex in New York, the Majestic Theater in Boston and the Public Library of Montclair, New Jersey. Most characteristic of his ever sure touch was the Electric Tower at the Buffalo Exposition in conjunction with which he served as a member of the Architectural Board.

The culmination of Mr. Howard's work, however, took place on the Pacific Coast, where he came, not at first to remain, on the invitation of Mrs. Phoebe Apperson Hearst, to construct the Hearst Memorial Mining Building at Berkeley, and where subsequently, over a period of nearly a quarter of a century he not only developed the general University scheme that had its rudimentary inception in the Phoebe Hearst Competition of 1900, but designed the Greek Theater, California Hall, Benjamin Ide Wheeler Hall, the Sather Gate, the Sather Tower, Boalt Hall, the Doe Library, Agriculture Hall, the Stephens Union, Leconte, Gilman, Hesse, and Haviland Halls and, as chairman of the commission, the Memorial Stadium.

There is no question but that time will prove the sound usefulness and enduring beauty of these fine structures.

Nor was his practice limited to the campus. In his early partnership of Howard and Galloway, as a member again of the Architectural Board, he designed several buildings for the Alaska-Yukon-Pacific Exposition of 1909, and many edifices large and small in the Bay Region, among which might be noted at random, the Adam Grant Building and the Italian-American Bank. As chairman of the Advisory Board on the San Francisco Civic Center, he was largely responsible for its location and arrangement, for the program and conduct of the competition for the City Hall and for the design of the Exposition Auditorium.

After the World War, in which Mr. Howard served in France as Captain of the Red Cross, as "John Galen Howard and Associates", he built the First Congregational Church of Oakland, and the LeConte School of San Francisco.

Finally, and perhaps best, he left among various writings two published poems of an unfinished trilogy, "Brunelleschi" and "Pheidias", the product of a profound and sympathetic understanding of the Past gained through a breadth of reading rarely equalled, and—in the opinion of many of us—a real gift of lofty verse. To those who knew and loved Mr. Howard, Pheidias, while outwardly the epic of the great Athenian, is but his own full life in heroic and poetic guise.

The springs of his action lay in the unalloyed sincerity of his thought and in his deep affection for the world and all good and true things in it:—he well knew the *joie de vivre*. With this went rich imagination and that discerning taste in all things that comes from an observing contact with many people and many places. He was wise, yet he had about him the freshness of youth. It is this, I believe, that raised him above the common run of men.

WARREN CHARLES PERRY.

HOW AN ARCHITECTURAL PROJECT IS CARRIED FORWARD

by LOUIS E. JALLADE

SO that I may not lose direction in this talk I will say that, as far as the architect is concerned, every project divides itself into five parts.

First—Obtaining the commission. That means either selling or taking an order.

Second—Solving the Problem, which means making of studies, etc.

Third—Making the Executive Documents, including plans, specifications, bids, contractors, etc.

Fourth—checking the actual building with the Executive Documents. (This means superintendence.)

Fifth—The termination of the engagement. (This means final inspections, checking of bills, guarantees, and the final certificate.)

Using these five classes as a guide, we will take up the second part. (The first one—Salesmanship—is to be taken up in a special talk.)

We have the owner's requirements—that is, what he thinks he wants in this building. It is now necessary for us to determine whether he really needs what he thinks he does, and if so in the form he thinks. This statement, whenever I have made it, has immediately started a discussion. Many architects believe the Program is the inspired word. We will forget the controversy for a moment, and follow along my line of thought. If you are successful enough to have an owner come to you and then have him tell you that he has bought or is about to buy a lot 20x30 feet at the intersection of the two most important thoroughfares in your town, and then he tells you that he wants to build an apartment house on this lot, common sense tells you right off the bat that he has started off on the wrong foot. Your sense of design tells you it is wrong for a client to ask for a California type of house in a Northern climate. I am not worried about such obvious contradictions.

I might illustrate this. A building committee in New England wanted a community building with large social facilities and about fifty sleeping rooms, a large gymnasium, and a good-sized swimming pool. The building was for men and boys only. Now this building could be operated successfully only if it had an ample income from its bedrooms and games. It was very necessary that a careful analysis be made. A three-day study of the town demonstrated that there were ten women for every man employed; that the young men left the town whenever able to; that there was no place of amusement of any kind in the town except a theater which functioned once a week. This survey demonstrated what was really needed was a women's building and not a men's building. We finally persuaded them to do this very thing and the building has been filled to capacity and pays well. The owner wanted something but his premise was wrong, and as the architect it was my duty to steer him right.

Of course, this is very controversial. There are some of you who will not get this point of view, ever. I know. I have had men who have been in my organization

*A talk before the Junior League of the New York Society of Architects.

only a short time, who, when given a new job, would say, "give me the owner's requirements." It is the old school stuff. They ask for a program instead of asking what the actual conditions are.

To develop actual conditions means a definite brain effort. That may be why some people do not take to that very kindly. However, to develop actual conditions it is necessary to do as the physician does in examining a patient for the first time. The patient has aches and pains. By some physicians these are relieved by dope or soft soap—by others, an X-ray of the teeth is taken which shows that the condition is brought on by an abscess of which the patient knew nothing. The advance in science and medicine is on the side of the man who X-rays rather than that of the one who purges and bleeds. You must X-ray the conditions before you can agree or disagree with the owner as to what he thinks are his requirements.

As I am speaking, the question comes to your mind, "How can I afford to say to an owner that he is wrong?" In architecture the rent is barely paid by the "potboiler", but income and leisure are produced through repeat orders. Repeat orders do not come from clients who do not get the goods delivered properly.

If you and the owner are guessing as to what the building should be—both guessing, differently, but nevertheless guessing—then your chances of hitting it right are one in a hundred thousand. However, a survey on your part to show whether a hospital, apartment house, or club should be of such and such a size will determine what is right. If the survey is carried on by you it will certainly attach a great deal more weight to your statement.

Do you think for one moment that the management of Childs' restaurants or of the Woolworth stores select their new locations by looking for "store to let" signs. They do not. They select towns and the locations in the towns by actual count of potential purchasers that pass a given point every day.

In making a survey we must find the "inside". It is something like a scientific analysis. What does the town need to bring about a certain result? What are the numbers and quality of the people who have this need? What might be the possible future growth of the town and adjoining communities under given conditions? Let us take the case of Camden, New Jersey. Did Camden need a bridge to Philadelphia or did it not? A survey would have shown that the people of that city and the outlying districts did their minor shopping in Camden because it was difficult to get to Philadelphia. It meant changing trolley cars, taking a ferry, and then a Philadelphia subway to the shopping district. Would a Philadelphia-Camden bridge improve the retail business of Camden? Here is what happened. Since the bridge has been finished, automobile busses operated from the outlying districts now rush through Camden and over the bridge for the same fare that it would have cost to get to the center of Camden, and the entire retail business which once stayed in Camden is now dispersed through Philadelphia. The news that there was to be a bridge was a signal for a real estate boom in Camden and a consequent building of hotels, office buildings, theatres, etc., all of which were based on a false hypothesis and all of which are now left high and dry. This is given for the purpose of showing what a survey means.

There is also the survey of existing buildings similar to the one you may have in mind. An intensified study of this type of building is necessary. It is here that the specialist excels. He knows from past experience how certain things react in this particular problem. Complex modern problems of life and a not too keen architectural training on the part of some architects make necessary the specialist. The specialist, in turn, destroys himself, but while he is going strong he does know the intimate requirements of that particular type of building. In order to accomplish approximately the same results as the special-

ist it would be necessary for the architect to be scientific-minded, so he may know how to carry on a research in the particular field he happens to be touching.

Let me use as an illustration a building built some twenty years ago, an immense building. The architect had never designed one like that before and he placed the elevators without having made a thorough survey of what had been done elsewhere. The owners became suspicious and brought in an experienced architect who, at a tremendous (but worth while) expense, changed the entire elevator layout—and the first architect lost his job.

There is much resistance against this research work. Unfortunately, many of our young men are not trained in this line of research. Then there is always the man who feels that this or that cannot be done because it has never been done before. This type of man is so immune to novelty that only death could pull him away. He usually says he can design a special building without any help; that all building problems are similar. He is the kind that starts a problem by designing the facade first and the plan last. If he attempted to dissect the problem he would probably not understand what it was all about anyway.

There is another important phase concerning actual conditions, and that is financial considerations. You may have a choice between several sites. It may be necessary to make sketches for these various sites, operating budgets and estimates of cost for each, so that one may be weighed against the other. If you come to your owner and show him that his point of view, or his so-called "owner's requirements", are wrong, these indisputable facts presented to him in an impersonal way leave no room for ill feeling on his part.

The architect is not hired primarily to make a building beautiful. If he were, he would be a luxury and would have lost the important position that he now holds. An architect is employed to correlate and tie up the beautiful and the practical. He is the man of all men on that job who must know all things pertaining to the building. He must know building materials, how they are brought together; he must bring them together in good taste, giving the building a pleasant appearance; safeguard his client against fraud or negligence; see that bids do not exceed the appropriation, and, above all things, that his talents are not expended on a "white elephant". The wise architect will not tie himself up to a building preordained to failure.

It is better to forego a commission entirely and starve a while longer than to put up a building that is a financial failure. You may never live it down. It is better to tell a client that he should not build, even though you lose the job. Do not "kid him along" with the hope that you can get through with it.

This analysis of building conditions brings you to certain conclusions. You present these to the owner and you are then ready to jump to the next step, the "Making of Sketches". There is one point that I must bring out—our architects must learn to "use their brains more and their hands less." If you say to the average architect I am thinking of building so and so, he immediately begins to make a sketch with his pencil. The making of sketches should be the last thing to do. We, as architects, have belittled ourselves by being forever ready to turn to make as many sketches as the client might express a desire to see. A sketch is nothing more than the mechanical action necessary to put on paper what you have reasoned out in your mind.

A sketch is the easiest thing that an architect can make. It is the most difficult thing for the client to make, so that both attach to it unfair values. It is like a doctor's prescription. It means nothing unless it follows a diagnosis. It is not the time that it takes to make sketches but the number of years that it has taken to prepare the mind in order to be able to make the sketch. Diagnose the subject aloud with your client. Do not make sketches. Sketches cost money, take your time and

your draftsmen's time and form the one leakage in the office that is the most difficult to stop and is almost impossible to measure.

Do not show your client two sketches or more with the idea of showing him something from which he may choose. Show him several sketches when accompanied by operating or cost figures. Bear in mind that if your client is able to choose between several sets of "show sketches" then he is able to do a little more than you, because you have not yourself been able to choose. Arrive at your conclusion, be sure that your scheme is right, show him a sketch and sell him that. Tell your client the reason for showing him that one sketch; how you made numerous studies and sketches and your scientific way of arriving at a conclusion. Be sure you do this. Do not let him think you made one sketch and let it go at that. Set up your sketch like a proud mother shows off her newborn baby. Do not let a client rush you into getting out sketches like a machine turns out buttons. Do not hurry unnecessarily in getting out sketches. Everybody wants things right away. It is a habit. They even want things "yesterday". If you think you are impressing a client by leaving him at 5 o'clock and meeting him the next morning at 8 o'clock with a set of sketches that took you all night to make, you are mistaken. If you can turn out sketches so fast then thinks he they cannot be worth very much. You must tell your client that it will take just so much time to study and so many hours or days to make the sketches. If you beat that time by a few days it would be better for you to go out and play golf and present the sketches when you return.

The reverse of that is true if you say you will have sketches ready at a certain time. They must be ready on the minute.

Another thing, in presenting sketches to your client, do not slide over them as if they were nothing at all. They are actually the result of a lot of hard work. They represent many hours and weeks and years of study. If they were so easy to make the owner would make them himself. Do not "throw" sketches at your client. Do not rush him. He does not know as much about planning as you do and on this point he is mentally slow. You must explain to him in a slow constructive way what these sketches mean. It is very important that the owner should know just exactly what these sketches call for. Do not start working drawings until the owner is absolutely sold on the scheme. Play square with him. He does not know as much about the plans as you do. Do not try to inveigle him into a condition of mind where he is hurried and then tells you to go ahead. Ask him whether he understands how you go from this room to that room; whether he understands that a room is a certain size and the ceiling height is so and so.

When this is all done and you are ready to start working drawings, do something of this kind. Say to your client, "Now we are crystallizing this scheme; we are going to make working drawings, steel, mechanical equipment and what not. Sketches are cheap compared with working drawings. If you make any changes in the working drawings after they are started, I will have to charge you for making changes." Make changes in sketches rather than in working drawings. Many of the disputes between the owner and the architect are caused by ignorance on the part of the owner. He does not know the difference between a sketch and a working drawing. Architects have not sold that idea to the public. The average owner wants to play square with the architect but he does not know what square is. He does not know that he is doing the architect an injustice when he changes drawings and refuses to pay for them.

I have a habit of keeping a report of all meetings with the client. I will give you an example of part of one of these reports. This report saved me much embarrassment when this owner changed his mind after most of the drawings had been finished. At the time the sketches were finished we had a meeting with the owner. Minutes were made of this meeting and a copy was sent to the owner. In this meeting I said (and it was so recorded in the report of the meeting), "I want the approval of the

scheme because the plans are being crystallized and it would cost the Committee money if the scheme were upset. In other words, we are now starting work on the final drawings, the sketch stage having passed." At a later date the Committee made a change. I called their attention to the report of this meeting and there was no question about it when I sent them my bill for making the change.

We are now about to start discussing working drawings. I have called this the making of the Executive Documents. Before these are started we must obtain certain definite information from the owner and public authorities. We must know the kind of electric current, the position of the sewer, the water gates, the lot lines and encroachments, and all of these things must be known before we start drawing. We then take our final sketches and send them to the mechanical and structural engineers for their preliminary studies, and our working drawings are started.

Now there comes a question which will probably never be answered — at what scale shall we make working drawings—eighth or quarter? I can only say that there are advantages in each, and the answer is dependent upon the type of the building. If it is a simple building, eighth will do, but then you will have to make more details, such as details for bathrooms, special rooms, etc., but that is unimportant for the purpose of our talk. But this is important—the question of what to show and what not to show on the drawings. You can put this down as a rule. THINGS SHOULD BE SHOWN OR CALLED FOR ONLY ONCE. We have three documents that go to the contractor—plans, details, and specifications. The specifications should not contain anything shown on the drawings and the drawings should not contain anything mentioned in the specifications.

In 1904 we, in our office, devised and began to use a Schedule of Materials. First we put this on the plans. Then in order to save time we put it on a special sheet. This Schedule of Materials saved a tremendous amount of specification writing and notes on the plans. (I wish we had copyrighted the system.) This Schedule of Materials was later improved by other architects by adding to it a schedule of doors and windows and the custom has now become universal. While plans should be easily read and dimensions taken off quickly without additions or multiplications, at the same time nothing should be duplicated on a drawing. In other words, show things once only. Then you check only once and rub out only once. The question of making drawings in pencil or ink, on paper or cloth, etc., is a matter of personal taste. But let me say that the thing that sinks the accounts of an architect into the red is the overlapping of unnecessary drawings.

Specifications we will not treat here. That is to be a special subject which I will not even attempt to outline.

On the mechanical and structural work, this is about as far as you go if you have outside help—you must tell the engineers what you are trying to do. You must tell them to avoid exposed pipes, etc. Then you must take their plans and check them over so there are no surprises in the building. You must know that if a pipe line is shown three feet away from outer walls, that the steam fitter will put it in that way, even though there is a general note on the plans that all horizontal lines must be kept within six inches of the outer wall.

We have now reached what, next to the making of the preliminary drawings, is probably the most important item, and that is the checking of the documents. They must be checked to see that they agree exactly with your sketches approved by the owner. Bear in mind that you are probably suffering from a condition which is found in many offices, and that is the desire to improve design. It is not always an improvement, but the draftsmen, and even the architects, have a desire to put personality into a building. On top of that are such things as unforeseen steel, added space needed for mechanical equipment, and, sometimes, building law requirements. I have seen plans come out of a drafting room that were so foreign to my sketches

that even I could not recognize them. You must establish a rule in the drafting room that nothing can be changed from the sketches without the head of the department knowing about it. This is the first item of checking—to see that the working drawings agree with the sketches. Sketches approved by the owner are important legal documents.

Then the plans must be checked with the engineers' drawings to see that the proper chases are provided and to see that furring and what not are taken care of for conduits and other things.

Then we must check the engineers' drawings to see that we have no girders running through the rooms; that the pipes can pass by the beams. There will be checking of shop drawings later, after the contract is let, and they are not to be overlooked by any means.

Let me tell you frankly that one of the most important functions in an architect's office is checking. There are two ways of checking—one where the checker sits on a high stool and waits for the plans to be brought to him. Then he draws rings around the mistakes or things he does not understand. Then there is the more intelligent constructive type of checking, which means checking the drawings as they are being made. An intelligent specification writer and checker or squad boss or the boss himself will be continuously traveling through the drafting room and checking things before they are crystallized. It is expensive to check later. It is expensive to find mistakes after they have been drawn, where they must be rubbed out in plans, elevations, and sections. Checking should be considered as a preventative medicine. "Catch them young".

We now come to superintendence—superintendence of work in the field. We will take that as a separate subject because it is a subject that should be separated from anything else. There are men who are primarily designers; others are superintendents. The superintendence is carried on outside of the office so let us treat it as outside of this talk and this topic will be taken up in a later lecture.

You will, of course, ask at the end of this talk what do we do with samples; how do we check them; how do we carry on our blueprint orders, etc., all of which would seem to be general office practice that has to do with the method of studying a project but only indirectly. We are going to have a talk later on about office practice and office administration so do not let us bring that in here.

Let us now take up the fifth item which is the "Termination of the Engagement". We will assume that the plans and specifications are complete and correct; that the superintendence has been efficient; that we have issued our certificates for payments from time to time, and we now come to the final certificate. You must bear in mind that the issuance of the final certificate means just what it says—*"the final certificate"*. You cannot get behind this unless you can prove fraud. There are no ifs and ands to a final certificate. Therefore, in a final certificate you are certifying that the building has been finished in accordance with the plans and specifications.

Now comes the question of extras and credits. Unless you have kept an accurate record by number and description of all credits and extras and unless they have been signed by the owner and builder and architect, you are in difficulties. You are now in a phase of bookkeeping. This phase of the work is particularly important, because you are now entering in a part of selling which we might call "after selling". In other words the building job is finished and we are getting into the hard luck stage. The switches may not switch, the hot water may not be hot, the roof may leak. The mystery and glamor of the whole new building adventure has gone by. Any unauthorized extras which the owner may have to pay for is going to help to develop a general feeling of irritation.

There is also the collection of the guarantees. You have stated in your specifications that the roof must be guaranteed; that the waterproofing must be tight and what not, and so you must now begin to gather in these guarantees, issued by the

subcontractor and countersigned by the general contractor. (Bear in mind that the final inspection has been made.)

Then we must get receipted bills and evidence of payments to the subcontractors and material men. There must be no liens on the building. All of this has to do with the business administration of the office.

Before closing, I want to say that you must continue to cultivate the interest of the client beyond the point of having delivered a job. Did you ever buy a piece of property and then question your judgment in buying it and after taking title to it be almost sorry that you bought it? Then, on top of that, the real estate agent calls you up and says he has an offer for the property amounting to a few thousand dollars more than you paid for it. Then, immediately, you brighten up and say that you would not take ten thousand dollars profit on that property. That is "after selling"—of a rather crude sort, of course. A finer and nicer type, as far as the architect is concerned, is to take your client through the building, show him where you have saved him money, the results you have accomplished, how much better the building is than he expected it to be; show him that he gets real hot water; talk about the design, the colors, the decorations; and then be on hand to remedy the first sign of trouble. Then visit the building the following month and then the following year. That is a type of "after selling" which the owner is not exactly entitled to but which is good business on the part of the architect.

Courtesy Camera Craft

AN AIR-PLANE PERSPECTIVE
Photograph by Alfons Weber

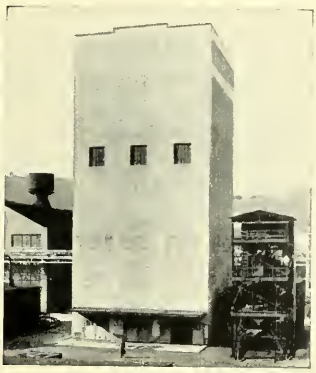
Courtesy Camera Craft

THE LONE EAGLE'S BEACON
NIGHT PHOTO BY HEINZ TIMM

ENGINEERING

and

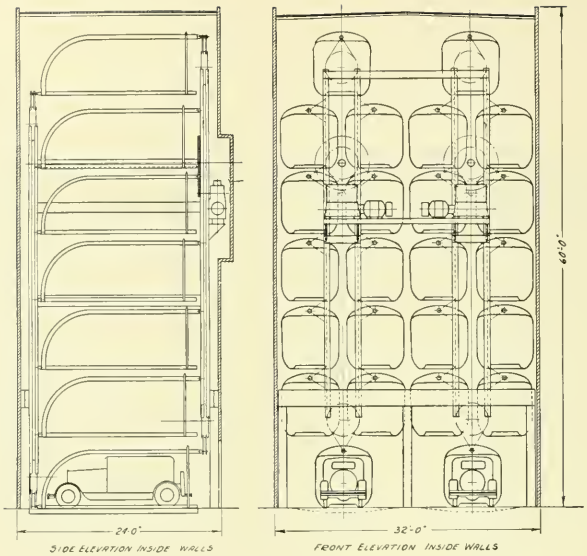
CONSTRUCTION



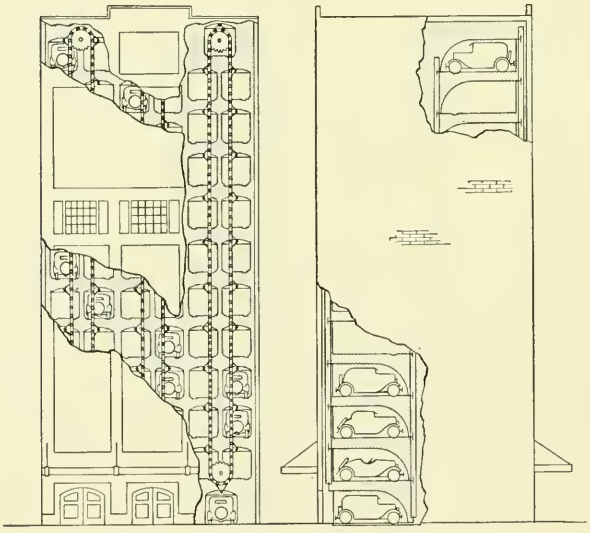
PARKING MACHINE AT THE EAST PITTSBURGH WORKS OF THE WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY. THE SMALLER PARKING MACHINE AT THE RIGHT WAS BUILT FOR EXPERIMENTAL PURPOSES; ON IT THE DETAILS OF THE COMPLETE BUILDING WERE DEVELOPED AND PERFECTED.

Featuring

An Endless Chain Parking Garage



OUTLINE DRAWING OF TWO ENDLESS CHAIN PARKING MACHINES. EACH HAS SPACES FOR TWELVE AUTOMOBILES 18 FEET LONG



LEFT: CUT AWAY FRONT VIEW, SHOWING METHOD OF ATTACHING CRADLES TO END-LESS CHAIN. RIGHT: SIDE VIEW SHOWING HOW CARS ARE CARRIED IN INDIVIDUAL CRADLES.

A solution to your parking problem.

Picture shows close up of entrance to parking cradle.

Car is in position to be automatically lifted to storage floor.

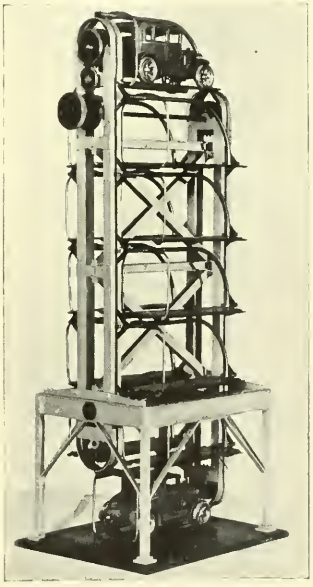
A VERTICAL PARKING MACHINE

by FRED'K W. JONES

PUSH a button, turn a key, or deposit a coin when you wish to park and, in less than a minute, a parking place for your car presents itself. Upon your return, your parked car automatically is delivered to you in a few seconds. Such convenient procedure is now possible, for an automatic parking machine, which enables the parking of twenty-four automobiles on a ground space little larger than that required by an ordinary double garage, has been developed by H. D. James, Consulting Engineer of the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pennsylvania.

This machine consists of cradles, one for each car, supported between two endless chains which pass over sprocket wheels at the top and the bottom of travel; the chains are driven by two electric motors, and, by means of a push-button control (or its equivalent), any cradle can be brought quickly to the driveway level for receiving or discharging an automobile.

"Three general methods, all of which use substantially the same control but different master switches, are used for operating the parking machine," said Mr. James, describing the operation of this machine.



HAND OPERATED MODEL OF PARKING MACHINE SHOWING CONSTRUCTION DETAILS

"First, there is the key system—the one used at the Company parking garage at our East Pittsburgh Works, and the one best suited for garages where the spaces are rented for a fixed time—say for a month. Outside the garage is a panel having several numbered locks, one for each parking space, and lock for opening and closing the door. Each tenant is provided with a key, which, when inserted in the lock for his particular space, and turned at right angles, dispatches that cradle to the driveway, and permits the tenant's taking his key from that lock and inserting it in the door lock. When the key inserted in the door lock is turned ninety degrees, or sideways, it establishes a circuit to automatically open the door as soon as the cage is level with the driveway. While the driver is engaged in driving his car "on" or "off", the key remains in the door lock preventing anyone else from operating the machine while the driver is inside the enclosure. When the automobile has been driven "on" or "off" and the tenant is ready to leave, the key is turned to the vertical position in order to remove it from the lock. This, by establishing another circuit, closes the doors, leaving the machine ready for use by the next tenant.

"Another method of operating the parking machine is by push button control—a method especially suitable for use in a public garage, where the pushbutton can be located in the cashier's office. When a customer wishes to park an automobile, a dispatcher directs him to a vacant place and opens the door to the parking space, or the customer drives close to the opening of a machine showing "vacant" signal such as a green light, where a light-ray operated relay or a track switch causes the doors to open (the system best suited to the particular installation should be selected); the driver then places the automobile on the cradle. When the driver has stepped out of the enclosure, he operates a lever to get his check, which is stamped with the location of the car and the time of parking, the lever establishes a circuit for closing the door and sets up a circuit for dispatching an empty cage to the driveway level so that the machine is ready to receive the next automobile. The door cannot be closed until the driver operates the lever, a feature preventing closing of the doors while the driver is inside the enclosure.

"When the driver returns for his car, he presents the check to the cashier, who pushes the button corresponding to the check and receives payment for the storage. By the time the driver reaches the machine on which his automobile is parked, his parking space is at the driveway level and the doors are open ready for him to drive out. In driving off the cradle, a circuit is established for closing the doors.

"The third method, the coin system, is the same as the pushbutton system except that a coin machine is used instead of pushbuttons. The driver deposits a coin which opens the door and provides a space for parking his car. As in the pushbutton method, he takes a check which enables him to call his cage to the driveway level when he wishes his car. If he over-stays his time (should there be a time limit), he automatically is locked out, and, to get his car, is required to deposit additional money."

Mr. James stated that the use of the automatic parking machine effects a remarkable saving in time. "The average time for parking a car, or delivering it," he said, "is only a minute. The present design of the machine operates at a chain speed of 100 feet per minute, so that the average time for bringing a cage to the driveway level is thirty seconds; when a cage is called to the driveway level, the machine automatically selects the shortest route. Another thirty seconds is consumed in driving the automobile 'on' or 'off' and in operating the doors."

Describing the machine further, he said, "The parking machine can be operated only when the door or gate is closed. Inside the enclosure for the machine, at the driveway level, are two platforms, one on each side of the cradle; persons entering or leaving the automobile will stand on one of them, thus, by opening a contact,

preventing the doors being closed as long as anyone is within the enclosure. This is an added precaution; as previously described, the control for the machine is arranged so that it cannot be operated when the driver is inside the enclosure.

"Each machine of twenty-four parking spaces is 105 feet high and occupies a ground area of 16 feet by 24 feet for an automobile 18 feet long. Where several machines are installed most of them can be made for shorter automobiles, thus reducing the required ground area and the first cost. When desired, a less or greater number than twenty-four cradles may be used; for each pair of cradles omitted or added the structure is changed eight feet in height. The machine may be arranged for loading and unloading at either the bottom or the top of the loop."

According to Mr. James the benefits accruing from the use of the automobile parking machine are manifold. He described some of these as follows:

"The advantages of savings in time and space are evident from the fore-going discussion, but there are many other features of mutual benefit to the garage-owner and the customer.

"The car can be put on the machine and taken off by the driver; no attendant need handle the car. After the car has been placed on the machine there is no danger of its being bumped or injured. No one has access to the car when it is on the machine except in the presence of the driver. This prevents tampering with the car or removing anything from it.

"The car is not operated under its own power after it is placed on the machine, a fact materially decreasing the fire hazard and eliminating ventilation problems.

"When the driver is ready to take his car, the machine may be started in his presence, and while waiting for his car, he has the satisfaction of knowing it is moving.

"Attendantless operation of this machine is possible by having it controlled and supervised from an adjacent office or by using a coin-collecting machine for operating it. The cost of operation is therefore very low; even when the machine is supervised, it requires this attention only at the driveway level. The machine makes only 35 to 40 revolutions per day, so the wear is very little and no hot bearings develop, maintenance cost thereby being reduced to a negligible amount. The dual drive assures continuity of service.

"The parking machine occupies such a small ground space that one or more of these machines readily can be installed in a building used for other purposes; should the building be required for other uses, the machines can be moved to another location."

The automatic parking machine is adaptable for many applications. "Among these," said Mr. James, "are commercial garages; temporary or vacant-lot parking; parking facilities for those attending theaters, churches, baseball or football parks, auditoriums, etc.; merchant garages for the convenience of customers of department stores, market houses, oil and gas stations, and other merchandising establishments; and occupants garages for tenants of hotels, apartment houses, clubs, office buildings, etc.

"Parking is a part of the business operation of some companies, such as bus and taxi companies, public utilities, electric light, gas and telephone companies, who require parking facilities for both passenger cars and trucks at their service stations. The automatic parking machine is ideal for such company garages.

"The parking machine is also useful as a freight elevator to improve existing elevator type garages, and as a display machine for showing automobile models.

"Commodity storage or container storage service for truck delivery offers another application. The body of a truck can be made up of several compartments which can be packed at some convenient point and conveyed to the driveway level on a machine of this type. In some cases the entire truck body might be used in this way."

RELATION OF FLOOR PLAN TO STRUCTURAL COST

by NORMAN B. GREEN, S. E.

AN important element of the total cost of a building may appropriately be termed the structural cost. This comprises the cost of the foundations, the supporting frame consisting of columns and beams, and the floor and roof structures which distribute the load to the beams. A low structural cost is dependent upon a proper and economical use of materials in the engineering design; but it is also dependent upon two factors whose control lies entirely within the province of the architect. The most important of these is the spacing of the columns and of secondary importance is the shape of the floor plan.

Column Spacing

The economic effect of a change in the column spacing, can best be analyzed by considering separately its effect upon the parts of the structure; that is the floor construction, the columns and the column footings. So far as the floor structure is concerned, the larger the bay the longer the beam and slab spans and in general the greater the cost of the floor per square foot. On the other hand any change in the size of the bays and consequently also in the number of columns for a given floor plan has no effect on their combined cost, exclusive of fireproofing, since the total load to be supported and the unit stress remain substantially constant, so that their aggregate sectional area also remains constant.

The footing cost per square foot of floor will increase with the size of the bay, since the bending stresses in the footing increase with its area. The combined effect of these three factors, one of which remains constant while the other two increase with the size of the bay, gives an over all square foot cost for the structure which increases as the size of the bays is increased.

While theory therefore would call for a continually diminishing structural cost with a decrease in the panel size, practical limitations of design lead to an increased cost if the panel size is reduced below a certain limit. In other words there is a certain definite economic panel size. This is due to the fact that for very small panels and consequently also small loads on beams, columns and slabs, it is not practicable to use small enough sections to fit these loads with no waste of material. Also in the case of a structural steel design, the ratio of the cost of beam connections and column splices to that of main material, increases rapidly for small panels and light sections. Since reinforced concrete members can usually be designed to more closely fit the loads and since there are no connections and splices to consider, the economic panel size will be correspondingly smaller than for a structural steel design.

As has been pointed out above, the column cost is constant and it is the varying cost of the floor construction and footings as the column spacing is changed, which determines the economic panel size. Therefore if the relatively small influence of the footing is neglected the economic panel size will be the same for a building of any number of stories. It should be noted however that as the number of stories is increased, the ratio of the column cost to the total structural cost becomes greater and therefore the percentage increase in structural cost due to a given variation from the economic panel size becomes less. In other

words we are justified in using a larger panel for a high building.

In order to determine the actual size of the economic panel and the manner of variation of the cost with the panel size, it is necessary to design several different bays and compare their costs. This has been

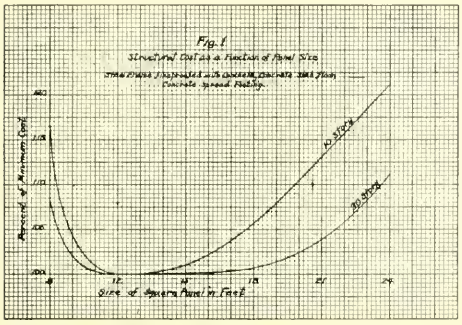


FIG. 1

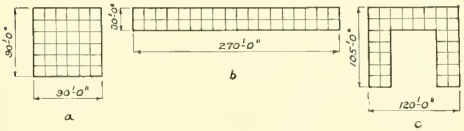
done for steel frame beam and slab structures ten stories and thirty stories high; consisting of an interior column with its footing and the floor system tributary to that column. The size of the panel was varied between 9′-0″ and 24′-0″, so as to obtain data for the curves of figure 1. The economic panel size is evidently about 12′-0″; however the curve is quite flat between 12′ and 15′ for the ten story design and between 12′ and 18′ for the higher structure. Beyond these limits an increase or decrease in the panel size entails a rather rapid increase in the structural cost. Moreover the lower and flatter curve for the thirty story structure, substantiates the general conclusion already reached, that for a high building a larger panel is justified. For example if the increase in structural cost above the minimum is limited to say 10%, we can use a 20′-0″ panel in a ten story building and a 23′-6″ panel in one of thirty stories.

Shape of Floor Plan

It may be stated as a general rule that the total cost of buildings of the same floor area and height, will increase with the ratio of the length of the exterior wall to the area of the floor. From this standpoint a building of circular plan would have the least cost, a square plan would come next and then rectangular plans in the order of the ratio of the long to the short side.

While a major part of this increased cost is due to the greater cost of the wall itself; a certain part is chargeable to the structure. In the preceding investigation of the effects of varying panel size, it was considered that the engineering structure consists of the repetition of a single unit, which is the column with its footing, together with the floor tributary to that column. Now wall units contribute only one half, or for the corners one fourth, of the floor area of interior units; while their cost is more than half as great. It is obvious therefore that the greater the number of wall units or length of wall for a given area of floor plan, the greater will be the over all square foot cost of the structure.

A comparison indicates that wall units cost about 70% as much as interior units of the same panel size. On this basis a cost figure for purposes of comparison may be obtained for any floor plan, by adding to the number of interior columns, the number of wall columns multiplied by seven-tenths. For example the square plan (a) of Fig. 2



Comparative Floor Plans

FIG. 2

with 25 interior and 24 exterior columns, would have a cost figure of 25+.7x24=42; whereas either of the plans (b) or (c) with 17 interior and 40 exterior columns would cost 17+.7x40=45. The increased cost is in the ratio of 45 to 42 or 7.1%.

Since the plans (b) and (c) represent what is for practical purposes an extreme variation from the square plan, it is apparent that the effect of panel size on structural cost is more important than that of floor plan shape.

The ARCHITECT'S VIEWPOINT

- *A Fling at Modern Design*
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- *Just What is Art These Days?*

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IT IS, of course, presumed that the publishers of a magazine devoted to architecture, and the allied arts and crafts hope and expect it will be largely read by the general public, who may not be as trained in these subjects as the technicians. Many such articles are so highly technical in phraseology as to be somewhat difficult for average readers to understand thoroughly. With this in mind this article is prepared, and should anything appear to be facetious, it is thus written only for the purpose of stressing certain points.

To those who have followed or studied the so-called styles of architecture with their structural and decorative concatenations down through the Classic, Neo-Grec, Colonial, Queen Anne, Eastlake, Rococo, Romanesque, L'Art-Noveau, Mission, Pullman, Jigsaw, and whatnot periods, it must be apparent that what is called "style" is evanescent. In this the world may be fortunate. What may be designated in plain English the Modern Style is now raging, and we appear to be in the midst of an esthetic revolution, which, like all revolutions — whatever their purpose and whether or not worthy or successful—must eventually come to an end.

Architecturally speaking, this Modern Style is supposed to be largely evolved from a combination of the vertical and setback motifs. The former was promulgated by Louis H. Sullivan and, as is well known, was based upon the recognition of the structural members of the steel frames of buildings. The columns being the most prominent are, of course, accentuated in the treatment of the facades. The cornice in the case of high buildings, as well as most others, should long ago have been eliminated, if only upon the theory—or axiom if you like—that nothing is beautiful if not useful.

The setback type was supposed to be forced upon us by the exigencies resulting from high buildings located on narrow thoroughfares in congested districts, and not originated, as has been claimed, by some genius who thought he had discovered something really new. It is possible that he may have seen some geographical magazine with illustrations of Mayan temples, in which case the style evolved might appropriately be called "Yukantanic." Perhaps he saw an old pictorial Bible illustrating the Tower of Babel. Indeed this is not unlikely, for many of the examples of this type are confusing to say the least. Why not call it "Babelonial"? Granting that many buildings of the vertical setback type are very impressive and really fine, can there still be any logical reason for the erection of a tall building of this kind in—say—a third rate town in Texas, which has nothing else but acreage and sunshine? This is not an argument against the setback type when a monumental effect is produced and the design is properly handled, wherever the example may be located, but is an effort to draw attention to the practicability and economics of the problem. Surely re-entrant angles and

setback stages neither make for economy in cost nor in space planning, and rentable space is supposed to be the principal economic attribute of a building. Examples as above referred to might be attributed to the bumptiousness of some Chamber of Commerce, or wealthy individual or concern, and be rightfully charged up merely to advertising.

Of course, the clothing of exterior structural members of a building is necessary for fireproofing or other protection, as well as for color and decoration. However, it does not follow that decorative modelling should look as though cattle had been stampeding in the mud. Neither does it follow that a moving picture theater devoted possibly to the exhibition of murderous gangster plays should be decorated with objects, symbols and forms cribbed from the Mayan temples dedicated to sanguinary sacrifices. If these forms had beauty, they might be excusable, but none of this sort of thing is either logical or appropriate to its purpose, although possibly so intended, and thus should not endure.

Certainly a very large number of the modern structures referred to are of such permanent character that they may be with us indefinitely; and if there be those who think the style has come to stay and therefore would continue to foster it, it behooves them to at least try to use such forms, models, colors and the like as will not offend the eye, whether trained or otherwise.

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There is another type of modern architecture other than vertical that is hardly convincing or even understandable, except perhaps to those who perpetrate it. This refers to structures with broad continuous horizontal bands of glass across the facades, upon which is superimposed another band of solid material with no visible means of support. If this be architecture, make the most of it.

The coming Chicago Exposition will contain so much of this sort of thing that it may result in the end of this esthetic revolution called "Modern." Chicago is famous for doing things in a "big" way; and if one is to judge by published designs and descriptions, that word will epitomize the effort and justify the end. Perhaps this may be architectural racketeering. One design published indicates a revolving restaurant, three hundred feet in height, with a number of setback stages, reminding one of an old fashioned cruet stand. This should be a veritable Tower of Babel, and the view, smoke screen and odors derived should constitute a "big" experience to the patron.

What with the substitution of harsh angles where curves would seem rational and desirable, uncouth geometric patterns for recognized forms of beauty, bizarre colors, accentuation of the uglier parts of the structural work, so-called ornamental metal work which is almost viciously at variance with all recognized lines of grace, the chromatic kitchen, the irridescent bathroom, fanatical furniture, haywire hardware, jazz hangings, and so on, it might seem to some that the style has run the gamut of questionable motifs and perhaps will soon reach its probable destination of "innocuous desuetude," as the late President Cleveland used to say, or possibly it may continue to the end that the entire country will resemble a Hollywood movie set.

Even some sculptors, artists and decorators appear to have become obsessed with the idea that anything that violates precedent is art. It might seem that many who are practicing architecture think that they have discovered something novel, and with a dangerous weapon in hand are forcing an anachronism upon a gullible public. Like leaping sheep they attempt to follow the leader, but many fail to get over the fence. There should be something to the practice of architecture besides the mere selling of it, and possibly it is well to bear in mind that architecture is said to be the mother of the arts, and should by this token foster, protect and guide them by her own good example; and also we should be reminded that there is nothing really new under the sun.

Believe it or not, this is a point of view.

CLARENCE R. WARD, A.I.A.

UNIFICATION OF THE ARCHITECTURAL PROFESSION

Foreword by FRANK C. BALDWIN

CIVILIZATION is now going through a crisis. Readjustments and new relations are taking place throughout the whole world. When stabilization finally comes in the United States the architectural profession, and the individual architect, will be confronted with conditions of practice and with forms of competition not encountered before. The opinion of many architects is that the profession of architecture, at least in the United States, must be prepared to meet the new conditions if it is to survive as a profession, and if it intends to maintain intellectual command in the building industry. Now is the time to lay the foundation, to prepare for competition, and to make ready for the opportunities of the future.

In numbers the architects are but a handful. Because they are individualists they have so far failed to unite as one professional group under national leadership. At present there are a multiplicity of independent state, city and county organizations of architects and of draftsmen, and other types of local societies—all of which are uncoordinated and, therefore, a source of confusion to the architectural profession itself, to the building industry, to the community, to the public press, and to the legislative and executive agencies of state and federal governments.

One effect of many uncoordinated local societies is to encourage the individual architect to make small contributions of his time and money to one of them, and to then reach the conclusion that he has thereby fully discharged the obligations which he owes to his community and to his profession.

The architectural profession is too small and too widely scattered, and too sensitive to economic phases and social changes to support multitudinous isolated organizations.

The imperative necessity of unification of the architectural profession under national leadership is apparent. The solution of the problem—the writing of a workable plan for making unification a fact—is another matter!

Following the Sixty-fourth Convention of the Institute, in San Antonio, in April, the President of the Institute and the Board of Directors appointed a special Committee on Unification to meet with a like committee from the State Societies for the purpose of developing a workable plan under which every reputable practicing architect would have the privilege and duty of putting his shoulder to the wheel for the purpose of advancing the cause of architecture and his own professional interest.

The chairman of the Institute's Committee on Unification, Edwin Bergstrom, of California, was elected chairman of a meeting between that committee and the Unification Committee of the State Societies, of which Robert H. Orr of California, is chairman. The meeting took place in Indianapolis, Indiana, on June 26 and 27, 1931.

For the information of each Institute member, it should be stated that the report has been sent as a separate document with individual letters of transmittal to the Presidents of the State Societies; to the Presidents of the Chapters of the Institute; and to the members of the Board of Directors of the Institute.

The purpose in here submitting the report to every Institute member is two-fold:

First—to invite his consideration of the reasons for unification, which the Board and the Convention deemed to be of great weight;

Second—to invite his support of the fundamental principles set forth in the report, under which it is hoped to make unification an accomplished fact.

The chapters of the Institute have been requested to send their comments and their approvals to the chairman of the Unification Committee, at *The Octagon, prior to September 1st.* Individual members are asked to express their views at their own chapter meetings, or to send them direct to *The Octagon.* They should bear in mind that:

The report is a tentative one. It does not

present the final conclusions of the Unification Committees, or of the Institute Board. The report merely attempts to set out certain basic principles — a skeleton outline if you like — under which it is believed unification can be brought about. Therefore, no concern need be given to the lesser details of the proposed set-up, to the phraseology used in this or that paragraph, or to technical or hypothetical cases which might tend to show that the scheme is not one hundred percent perfect. Many minor imperfections are inevitable. They must be met and ironed out under the process of time.

What is sought now is a statement of fundamental principles on which the whole profession can unite, and under which The American Institute of Architects with the cooperation of the State Societies of architects can proceed to organize the architectural profession as a compact, aggressive and democratic national organization of professional men.

The report of the committee in full follows, Edwin Bergstrom of Los Angeles, being chairman:

Preface—The Board of Directors of The American Institute of Architects stated to the sixty-fourth convention of the Institute at San Antonio in April of this year that—

The exercise of leadership is primarily the function of the national body and always should be. The Institute must lead the architectural thought of the country, and develop general principles and policies which it must promulgate for the general benefit of the public and the architectural profession. Consequently, it cannot act in detail to carry out these policies throughout the forty-eight states, and the state societies that have been developed are agencies which will achieve this result.

The Board feels that the Institute, in collaboration with the state societies, should work out some plan of organization which will give the unattached men in the various communities an opportunity to become members of architectural societies in their states, and by which those state societies shall be related to the Institute in a very definite manner. To this end the Board invited the present state societies to hold a meeting at this Convention, in order that they might discuss these matters and so that the Board might perhaps find a method of relating these societies organically to the Institute. The Board believes that they should become a definite part of the Institute organization. It believes that this can be brought about without changing the character of the Institute membership, or giving up anything that it has so splendidly achieved in the seventy-four years of its existence. It believes that the Institute can immeasurably expand its usefulness and its influence by so doing.

Therefore, the Board offers this resolution for approval and adoption by the Convention:

Resolved, That The American Institute of Architects, in Sixty-fourth Annual Convention assembled, believing that the prevailing conditions with respect to the practice of architecture and the development of state societies of architects offers a most opportune time to collaborate with such groups and bring about a unification of the architectural profession, hereby authorizes and directs the Board of Directors of the Institute to invite such societies to collaborate with it and to formulate a plan whereby such societies can be brought into direct unified relationship with the Institute, and to present at the next Convention the necessary recommendations to achieve such result.

The idea of unifying the profession under the leadership of the Institute appealed to the Convention and it unanimously adopted the resolution above quoted.

There are active state organizations of architects in New York, Philadelphia, Ohio, Michigan, Indiana, Illinois, Washington, California, New Jersey, and Florida. Representatives of these state organizations, except the two last named, met with representatives of the Connecticut Architectural League and the Arizona State Board of Architects in San Antonio prior to the Convention of the Institute. These representatives subscribed to the unification idea and in the Convention supported the position of the Board of the Institute.

During the Convention the Board of the Institute set in motion the unification program by adopting the following resolution:

Resolved, That the resolution of the Convention with respect to the unification of the architectural profession be referred to the special committee appointed by the President, with instructions to confer with a like special committee representing the state societies of architects and to report and make recommendations to the Board of Directors of the Institute at the November meeting.

The two unification committees were appointed immediately and conferred jointly with the Board of the Institute.

Thereafter the two committees held a joint session in San Antonio, and adopted a procedure for developing the unification plan. They directed Edwin Bergstrom, Chairman of the Institute Committee, and Robert H. Orr, Chairman of the State Societies Committee, jointly to develop a tentative plan of unification, without instructing them as to its elements, and to present their plan to a joint meeting of the committees to be held in Indianapolis in June. That joint meeting is the one covered by this report.

The Report—The joint meeting of the Unification Committee of The American Institute of Architects and the Unification Committee of the State Societies of architects was held in Indianapolis, Indiana, on June 26 and 27, 1931. The meeting was opened with the presentation of a tentative plan of unification prepared jointly at the request of the committees by Chairmen Orr and Bergstrom. That presentation was followed by an expression from each committee member, and by the consideration of differing plans of unification. The meeting continued through a two-day discussion of the fundamentals involved in a unification program.

The members of the two committees unanimously agreed that the final plan of unification must be based on and embody certain fundamental elements, the most essential of which were declared to be as follows:

(1) *One national organization*

There should be only one national organization

of architects and that should be The American Institute of Architects.

(2) *The Institute should be inclusive*

The American Institute of Architects should represent all factors of the profession of architecture nationally.

(3) *State organizations*

A state-wide organization should be incorporated and maintained in each state to represent all factors of the profession of architecture within the state.

(4) *Local branches of state organizations*

Every state organization of architects should establish and maintain local branches within the political divisions of the state, and such local branches should be allied with the local chapters of the Institute for pronouncements and affairs affecting the profession locally.

(5) *Chapters of the Institute*

The Institute should establish and maintain chapters of the Institute within the states as local organizations of Institute members.

(6) *Membership of state organizations*

Every state organization should provide corporate memberships to which shall be eligible every registered, licensed, practicing or resident architect in the state and every person teaching subjects relating to the profession of architecture in recognized schools of architecture in the state.

(7) *Architectural Clubs—Junior Associates*

Local architectural clubs should be established and maintained within every state to which shall be eligible every person, not a corporate member in the state society, who is employed within the state for the preparation of drawings, specifications, or other documents or for the supervision or superintendence of the construction of works of architecture.

Such architectural clubs or the members thereof shall be allied as Junior Associates with the chapters of the Institute within the state.

The Junior Associate should be under no compulsion to change his membership status, unless he becomes a practicing architect. This would also replace the present Junior Class of the Institute.

(8) *Student clubs—Student Associates*

Local student clubs should be established and maintained in every recognized school of architecture within the state, wherein every student of architecture shall be eligible to become a member while he is attending such school or while he is spending the major part of his time in post graduate architectural studies in such school, or elsewhere under its jurisdiction.

Such student clubs or the members thereof shall be allied with the chapters of the Institute within the state as Student Associates.

(9) *Alliance of state organizations with the Institute*

Every state organization of architects, as and when it becomes representative of the entire profession of architecture within the state, shall be eligible for alliance with The American Institute of Architects.

(10) *Convention representation*

Every state organization of architects when allied to The American Institute of Architects should pay annual dues to the Institute, dependent on the number and classes of the members of the state organization, and be represented by a delegate and one or more alternates in the conventions of the Institute. Such delegates shall be Institute members. Each state organization shall be entitled to cast through its delegate or his proxy at least one vote on each question at the convention, and not more than three such votes apportioned according to the membership of the state organization, but the total number of such votes of all delegates of the 48 state societies shall not exceed 96 votes in a convention limited to a total of 250 votes.

(11) *Election of Directors by Divisions*

Those members of the Board of Directors of the Institute who represent geographical divisions of the country, the Regional Directors, should be nominated by the chapters of the Institute within the respective divisions and elected by letter-ballot of the Institute members within the respective divisions, prior to conventions.

(12) *Objects and purposes of state organizations*

The object and purposes of every state organization of architects should be similar to the objects and purposes of the national organization.

(13) *National leadership vested in Institute*

The American Institute of Architects should adopt and promulgate the general policies of the profession of architecture and carry on all national activities relating to that profession.

(14) *Support of Institute by state organizations*

Every state organization of architects and its branches should support the national organiza-

tion unreservedly in its national activities.

(15) *Freedom of action of state organizations*

Every state organization of architects should maintain and exercise the freedom of action of an independent organization with respect to the manner, degree and extent to which and the time within which it supports and carries out the general policies adopted by the national organization, but it shall not nullify or subvert any such general policy.

In making the above declarations the committees did not intend thereby to suggest any change in the memberships of individual architects in the Institute, their representation by delegates in the conventions of the Institute, their method of selecting the delegates, or the value of the votes of the delegates. Nor did the committees intend to suggest any change in the disciplinary procedure with respect to Institute members or in the status of the chapters other than to require the chapters to act in collaboration with the local branches of the state organizations in matters of local pronouncements and affairs, and probably to place upon the chapters the prime responsibility for the Junior Associates and the Student Associates.

The committees at this meeting considered only superficially such matters as dues and the manner of their collection, the manner of organizing state societies and the establishment of permanent offices by them, the nomenclature, powers and duties of the state organizations and their further affiliations and associations, the disciplinary procedure for non-members of the Institute within the state organizations, the privileges of the various memberships in the state organizations and with respect to the Institute and other details of unification. The discussion of these and many other matters will follow logically at the next meeting of the committees, after the major fundamental elements of unification have been developed.

RAY F. KEEFER BUSY

New work in the office of Ray F. Keefer, 770 Wesley Avenue, Oakland, includes a two story English residence in Los Gatos, for H. H. Powell and a stucco dwelling at 67 Oakmont Road, Piedmont, for George H. Drysdale.

OLYMPIC CLUB PLANS

No new Olympic Club building will go up this year but the present home of the organization will be modernized and materially enlarged.

In a communication to members Frank J. Foran, secretary, explained that while somewhat more than sufficient money is available for the project, it is felt that it would be an unprofitable venture, due to present economic conditions.

Instead the club will return to its members all money subscribed for second mortgage bonds and will spend up to $500,000 for renovation and improvement of the club building and property.

The following improvements will be made; renovation of the entire bathing department and beautification of the pool, a grill room and bigger cigar stand in the lobby, renovation of the main dining room, enlargement of the kitchen, conversion of present billiard and card room into large lounge, conversion of third and fourth floors into game-room, addition of two stories of living rooms, erection of solarium on roof, refurnishing and redecoration of club and improvement of building at Post and Mason Streets.

FOR THE BUILDING TRADES

New Smith-Hughes trade extension classes of the technical department of the Humboldt Evening High School, 18th and Dolores Streets, San Francisco began the fall semester August 10th. These free public classes are conducted for the skilled workmen and apprentices engaged in the engineering and building trades. The Smith-Hughes plan of education for adults provides extra financial aid from the Federal and State Government to the San Francisco Board of Education for the maintenance of this type of technical and trade education.

The trade instruction includes mechanical and building trades drafting plan reading, industrial applied science, industrial applied mathematics, estimating, applied mechanics, applied electricity, practical and advanced surveying, Diesel engine construction and operation, turbine construction and operation, power house engineering, telephone engineering, practical steel metallurgy, concrete and steel construction, decorative painting, graining, varnishing, etc., and oxy-acetylene and electric welding.

ARCHITECT MOVES

Erle J. Osborne, architect, announces the removal of his office from 593 Market Street to 251 Kearny Street, San Francisco.

BOOK REVIEWS

By Edgar N Kierulff

NEIGHBORHOODS OF SMALL HOMES—Economic Diversity of Low-Cost Housing in America and England (Harvard City Planning Studies No. 3), by Robert Whitten and Thomas Adams. Published by the Harvard University Press, Cambridge, Mass. Price $3.50.

Another volume of this excellent series of books on city planning and its ramifications. The American section has for its contents such chapter headings as: Existing economic demands for small dwellings; Building of low-cost houses; Present sub-division practice; Improvement costs and community values.

The section on England is well illustrated and contains a chapter on the English Housing Legislation, and studies of selected areas. Tables of comparative figures are appended, together with several plot plans.

USEFUL INFORMATION ABOUT LEAD, Published by Lead Industries Association, Graybar Building, New York City. Price 50c.

A small, well bound, pocket size volume containing all the information that any prospective user or dealer in lead products might wish to know. The properties table of lead is most complete and contains information on mechanical, electrical, optical, thermal and other constants. The book is really a complete history of lead with chapters on mining, smelting and refining, as well as chapters on the alloys, resistance of land, corosion and physical properties. Paints, cables and batteries are fully discussed.

BUILDING HEIGHT, BULK AND FORM (Harvard City Planning Studies No. 2), by George B. Ford, assisted by A. B. Randal and Leonard Cox. Published by the Harvard University Press, Cambridge, Mass. Price $3.50.

The book presents the results of some excellent technical study and is recommended especially to the architect interested primarily in city planning, as well as to the persons in charge of all well organized city planning groups. The book has ample illustrations, besides plans, tables and sketches. The authors are all nationally known figures in regional and city planning.

ROAD AND STREET CATALOGUE AND DATA BOOK (Seventh Ed. 1931) Published by Gillette Publishing Co., Daily News Building, Chicago, Ill.

A consolidation of manufacturers catalogues of highway, road and street materials, construction plant and maintenance equipment; also data on engineering and economic methods of design. A geographical index of dealers and distributors is appended.

UNIVERSAL ATLAS HANDBOOK OF CONCRETE CONSTRUCTION. Published by Universal Atlas Cement Co., 208 South La Salle St., Chicago, Ill.

A very complete handbook containing a wealth of information in a readable and concise manner. Dealing with the majority of questions arising in concrete work and construction, this book should prove an excellent reference volume for the concrete engineer and contractor.

TRADE LITERATURE

An elaborate and very attractive brochure on aluminum chairs for use in hospitals, clubs and hotels, entitled "Alcoa Aluminum Chairs," has been published by the Aluminum Company of America, Pittsburgh, Pennsylvania.

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The Ideal Electric & Mfg. Company of Mansfield, Ohio, has issued a pamphlet, "Synchronos Motors" which illustrates several types of synchronos motors for refrigerating plants, etc.

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"Arco Radiather," dealing with automatic radiator control, is a pamphlet just published by the American Radiator Company, (A. I. A. File No. 30-Fa.) 40 West 40th Street, New York City.

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A booklet entitled "Wire Engineering," containing some valuable notes on wire and cables, as well as illustrations of Roebling service, may be obtained from John A. Roebling's Sons Company, Trenton, N. J.

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The Minneapolis-Honeywell Regulator Company of Minneapolis, Minn., has just issued a splendidly illustrated brochure on heat control, and modustat, which is an automatic orifice system of individual room temperature control.

WITH *the* ARCHITECTS

UNITED ARTISTS THEATERS

Construction of four picture theaters by United Artists in Berkeley, Vallejo, Richmond and Palo Alto has been started and the owners expect to have these new houses ready for opening this coming winter. Plans for all four structures were prepared by Walker & Eisen, architects, of Los Angeles. The latter firm has opened Northern California offices in the Mercantile Bank Building, Berkeley. The local representative is Mr. Costello. The theaters will range in cost from $65,000 to $125,000 each.

OAKLAND STORE ALTERATIONS

Extensive alterations are being made to one of the stores in the Elks Building, 20th Street and Broadway, Oakland, for the lessees, Davidson and Licht. The plans were prepared by William Knowles, architect. All of the interior finish is being done by the Mullen Manufacturing Company of San Francisco.

REDWOOD CITY SCHOOLS

Plans have been completed and bids taken for the construction of two one-story reinforced concrete school buildings at Redwood City, the architects being Coffey & Rist, Phelan Building, San Francisco. The work will consist of additions to the Eagle Hill and Garfield Schools and will cost $85,000.

$70,000 RESIDENCE

Plans have been completed by Newsom & Newsom, architects, Russ Building, San Francisco, for a $70,000 residence in Upper Piedmont Estates, for Richard K. Ham of Oakland. The same architects have made plans for alterations to the Piedmont home of W. J. Gardner.

SAN JOSE STATE BUILDING

Plans are being completed in the office of Ralph Wyckoff, architect, of San Jose, for a $200,000 addition to the State Teachers' College in that city. The structure will be given up to the various sciences.

FIVE STORY APARTMENTS

Plans are being prepared in the office of Couchot & Rosenwald, 525 Market Street, San Francisco, for a five story and basement apartment building to replace one destroyed by fire last winter. The owner is Senator Frank S. Boggs of Stockton, where the building is to be erected. The structure will have steel frame with brick exterior walls and will have thirty-two apartments of two, three and four rooms to an apartment. There will be stores on the ground floor. The cost is estimated at $150,000.

SAN FRANCISCO APARTMENT

Plans have been completed by H. C. Baumann, architect, 251 Kearny Street, San Francisco, for an eight story, Class A, reinforced concrete apartment building for the Marion Realty Company. It will be located on the northwest corner of Pacific Avenue and Fillmore Street, San Francisco. The contract for the structural steel has been awarded to the McClintic-Marshall Company. Improvements will cost $250,000.

DEPARTMENT STORE ADDITION

Construction is scheduled to start this month on alterations and additions to the J. F. Hink Department Store in Berkeley. An employees' restroom will be built on the roof and the beauty shop will be enlarged to double its present size. Plans were prepared by W. H. Ratcliff, Jr., of Berkeley, who has also prepared plans for a three story brick addition to the Y. M. C. A. gymnasium in Berkeley.

HALL OF RECORDS, MARTINEZ

E. Geoffrey Bangs, architect, of Oakland, is completing working drawings for a new Hall of Records at Martinez, estimated to cost $400,000. The building will have a steel frame with concrete floors and walls, hollow tile and metal lath partitions, and exterior of brick, stone and terra cotta. Bids are scheduled to be advertised early this fall.

ENGLISH TYPE RESIDENCE

John Hudson Thomas of Berkeley, has prepared plans for a two story English type residence on Regal Road, Berkeley, for James W. Walker. Mr. Thomas is also preparing plans for a residence in Marin County, and an auditorium and lecture hall for Williams Junior College, Berkeley.

BAKERSFIELD CHURCH

Charles H. Biggar, architect, of Bakersfield, has completed plans for a new edifice for the First Baptist Church of that city. There will be an auditorium seating 600 persons, also an assembly hall and chapel, Sunday school rooms, etc. More than $100,000 will be expended on the improvements.

SALINAS HOSPITAL

Plans are in course of preparation for a one story reinforced concrete private hospital at Salinas for Dr. H. C. Murphy. The architects are Kent & Hass, Underwood Building, San Francisco. The owner plans to spend from $75,000 to $100,000 on the building and equipment.

CLASS A WAREHOUSE

The Bekin Van & Storage Company will build a Class A warehouse, 146x80 feet, at 4th Street and the Alameda, Los Angeles, to cost $125,000. Construction will be of concrete and hollow tile. The architect is F. Eugene Barton and the structural engineer, T. Ronneberg, both of San Francisco.

UNIVERSITY GYMNASIUM

Plans will be completed next month for the new Harmon gymnasium at the University of California, Berkeley. The drawings for this $1,000,000 structure are being prepared in the office of George W. Kelham, Supervising Architect of the University.

LOS ANGELES HOSPITAL

Plans have been completed by Albert C. Martin, Higgins Building, Los Angeles, for a ten story reinforced concrete addition to the Queen of Angel's Hospital, Los Angeles, estimated to cost $400,000.

ARCHITECTS MOVE

The following architects have recently moved to new locations:

Thomas M. Edwards to 550 Montgomery Street, San Francisco.

Sidney A. Colton to 2464 Prince Street, Berkeley.

Howard Gilkey, landscape architect, to 6311 Moraga Ave., Oakland.

Frank A. Vigers to 5841 Carleton Way, Hollywood.

Wm. H. Kraemer to 351 South La Brea Ave., Los Angeles.

F. H. Slocombe to 3830 Harrison Street, Oakland.

F. M. Goodwin to 661 Manchester Terrace, Inglewood.

R. A. Curry moved from Los Angeles to Wooster, Ohio.

Albert R. Ritter to 1645 Shenandoah Ave. Los Angeles.

Edw. J. & Jno. C. Smith to 3881 E. 1st Street, Los Angeles.

Harry L. Pierce to 700 Western Mutual Life Building, Los Angeles.

E. Allan Sheet to 2007 Wilshire Boulevard, Los Angeles.

James M. Hitchcock to 1224 Romulus Avenue, Glendale.

John W. Mahoney to 1117 A. E. Larsen Building, Yakima, Washington.

Edward L. Mayberry to 342 So. Flower Street, Los Angeles.

NORTH BERKELEY RESIDENCE

An attractive new home of Spanish design has just been started on Euclid Avenue, North Berkeley, for Marcus Lothrot, Crocker Building, San Francisco. Arthur Dudman, architect, of Berkeley, prepared the plans.

GOOD FOR THE ARCHITECT

An ordinance requiring that all residences costing more than $10,000 be constructed under the supervision of a licensed architect has been given its first reading by the Hillsborough City Council.

COUNTRY CLUB HOUSE

At Santa Cruz the Monterey Bay Country Club will construct a $10,000 club house from plans by Frederick H. Reimers, architect, 333 Post Street, San Francisco.

WILL D. SHEA

William D. Shea, aged 65, died at his home, 1450 Green Street, San Francisco, July 17th, from a heart attack.

With his brother, the late Frank T. Shea, W. D. Shea, a native of California, designed some of the outstanding buildings in San Francisco, among them the dome of the old City Hall, destroyed in the 1906 disaster; the chapel at Holy Cross cemetery and the churches of St. Brigid's, St. Vincent's de Paul, St. Paul's, St. James, Holy Cross, Star of the Sea, St. Monica and St. Anne's church, the latter now in course of construction.

His last commission was the preparation of plans for the Aptos Junior High School of San Francisco recently completed at a cost of $600,000. Mr. Shea, with his brother and J. O. Lofquist, participated in a number of prominent architectural competitions years ago, including the San Francisco City Hall. He was a member of the San Francisco Chapter, American Institute of Architects, California Council No. 880, Knights of Columbus, Elks Lodge, Woodmen of the World and California Parlor, Native Sons. He is survived by a widow, daughter and son, the latter, W. D. Shea, Jr. Mr. Shea's business will be continued by John O. Lofquist.

ELMORE R. JEFFERY

Elmore R. Jeffery, architect, died at the wheel of his automobile as he stopped for a traffic signal on Pasadena Ave., near his home, 374 W. Avenue 57, Los Angeles, July 6th. Frank R. Schaefer, his associate, who was in the car, noticed Mr. Jeffery slump over the wheel and turned the ignition switch. Mr. Jeffery was carried into a drug store near by and examination by the attendants of the ambulance which had been called revealed that death had resulted almost instantly from a heart attack.

Mr. Jeffery was born in Wisconsin 54 years ago and came to Los Angeles at the age of seven years. He received his education and early architectural training in Los Angeles. His first association in the architectural business was with Paul J. Van Trees. Later Mr. Schaefer became his associate. Many buildings were designed in his office, including the Franklin High School in Highland Park and the Highland Park Masonic Lodge Building.

A WORLD MAP FOR METEOROLOGISTS

B. J. S. Cahill, architect, of Oakland, was one of the leading speakers at the recent convention of the American Association for the Advancement of Science in Pasadena, June 17-19. He addressed the Meteorological section on "All Daily Synoptic Charts from One Common Base Map of the World". At present over a score of the world's most progressive nations print daily weather maps or "synoptic charts" as they are called. These are all drawn on different systems of projection, different scales and varying technique and details so that not one wholly agrees with any other. Similar differences occur in the overprinted weather information. Pressure of the atmosphere is given in inches or on the metric system from local or sea levels and isobars are drawn at all sorts of intervals instead of standard ones. Temperature is expressed both in Fahrenheit and Centigrade, while other symbols and notations are equally diverse.

Mr. Cahill showed that if all National Meteorological Observatories substituted their local charts for similar ones cut from the Conformal Butterfly world map and overprinted them on a uniform system internationally agreed upon, the results would prove of very great advantage to students of meteorology, especially in the matter of what is called "long range forecasting". The small synoptic charts would all fit in with one another and be indefinitely extensible in all directions, and when assembled according to date and Greenwich Mean Time, would provide uniform daily weather maps of the whole world, or at least as far as observations now extend. Mr. Cahill has worked on this world base map for over thirty years and has perfected it in every detail so that it is ready for immediate adoption. The paper was listened to with the utmost attention and elicited enthusiastic acclaim.

TO PLAN FEDERAL BUILDING

Herbert C. Clayton, architect, of Honolulu, has been commissioned by the U. S. Treasury Department to prepare plans for the proposed immigration station to be erected by the Federal Government at Honolulu. C. W. Dickey, another Honolulu architect, will act as consultant on the project.

OREGON CHAPTER

A special meeting of Oregon Chapter, A. I. A., was held at the University Club, Portland, July 7th. Those present were Messrs. Church, Newberry, Snider, Logan, Jacobberger, Howell, Stanton, Forrest, Lawrence, Roehr, Knighton, Aandahl, Brookman and Crowell.

In the absence of President Doty, Vice-President Aandahl called the meeting to order.

On motion of Mr. Lawrence the president was authorized to appoint a special committee to study the need of a State Association and recommend action to be taken by the Chapter.

Moved, seconded and passed that the question of ceremonial be laid on the table.

Moved by Mr. Lawrence, seconded by Mr. Church, and passed, that the Committee on Professional Practice and Competitions examine the form of agreement used by the West Texas Chapter and recommend action as to the adoption of it or similar agreement by the Oregon Chapter.

Moved by Mr. Stanton, seconded by Mr. Howell, and passed, that the question of securing representation at conventions be laid on the table until next fall.—W. H. C.

GRANTED PROVISIONAL CERTIFICATES

The following have been granted Provisional Certificates by the State Board of Architectural Examiners, Southern District, 1124 Associated Realty Building, Los Angeles, to practice architecture in the State of California:

Charles Lyman Haynes, 2075 East Third Street, Long Beach; Kenneth Messenger, 4152 Orange Ave., San Diego; John James Landon, 178 North Alexandria, Los Angeles; Glenn Evermont Miller, 154 Artesia Ave., Long Beach.

BRANCH LIBRARY

Contracts have been awarded for the construction of a two story reinforced concrete branch library on 37th Avenue, San Francisco, from plans by John Reid, Jr., 405 Montgomery Street, San Francisco. The building and equipment will cost approximately $50,000.

REINFORCED CONCRETE CHAPEL

A chapel to cost $100,000 is being planned by Arnold S. Constable, architect, of San Francisco, for the Dominican College, San Rafael.

THE "FLYING ARCHITECT"

The San Francisco newspapers have found some good "feature stuff" in the air flights of Wm. A. Newman, architect, and building superintendent for the government, with headquarters in San Francisco. One of these news items goes on to say that:—

"In George Washington's day, when a government architect journeyed the hundred-odd miles from the then capital at Philadelphia to the site of the new Federal City in Maryland, he had a two-day coach trip ahead, and mud holes were deeper than air holes.

"If he wanted to hop to Boston and back to see how the new postoffice was coming on, he faced an eight-day task, just about the Post-Gatty world flight time.

"Today, San Francisco has a flying government architect whose territory covers half a continent, and more, and when he wants to go to Salt Lake, five times the distance of the Maryland trek, he leaves at 10:15 a. m., arrives at 3:30 p. m., and concludes half a dozen conferences by nightfall. He is William Arthur Newman, supervising architect of all western government buildings, including Alaska and Hawaii.

"Confronted by the huge program of government construction of 1931-33, Newman found trains too slow about a year ago, and took to the air. Since then he has been flying all over the west, inspecting two score projects in various states of construction. He is almost a commuter to Los Angeles, and recently in half a week he has overseen postoffice construction jobs in San Diego, Salt Lake City and Montana.

"'I haven't gone to Alaska by plane yet, but I may before the Fairbanks postoffice is completed, and I may even take a Honolulu air jaunt in the next few years,' he said smilingly, as he left on a vacation.

"Newman is one of six supervising architects and engineers of the United States treasury department."

CITY PLANNER EXAMINATION

The U. S. Civil Service Commission recently held an open competitive examination for the position of city planner to fill vacancies under the National Park and Planning Commission, Washington, D. C. The entrance salary is to be $4600 a year.

SMALL HOUSE COMPETITION

So successful was last year's Small House Architectural competition conducted by the Better Homes in American Association, that the directors are making every effort to stimulate interest in this year's competition which is expected to be more popular than the 1929 contest.

James Ford, executive director, writes on the subject as follows:

"An earnest effort is being made by the board of directors of Better Homes in America to discover the best examples of small house architecture throughout the country so that these may be called to public attention. As a means to this end a second small house architectural competition is to be held this year and is open to all registered architects in the country. Dr. Ray Lyman Wilbur, as President of Better Homes in America, announces that three gold medals will be offered by that organization to the architects who have designed the best small houses judged worthy by a committee on awards to be appointed by the president of The American Institute of Architects. Mrs. William Brown Meloney of New York, who with the cooperation of President Hoover was founder of Better Homes in America in 1922, is the donor of these medals. Honorable Mentions will also be granted.

This annual competition is deemed to be an increasingly important phase of the work of Better Homes in America, which is designed to promote home ownership, single family housing and the improvement of existing homes. For nine years local volunteer committees have been organized to promote the above purposes through lecture programs and discussions, home improvement contests and house demonstrations. Every phase of home improvement, including home furnishing, landscaping and gardening, home recreation and related subjects, is covered by these committees in their annual programs. It has been found, however, that in many parts of the country the public knows little about architectural design and planning and for that reason it is hoped that members of the American Institute of Architects will cooperate by taking part in this competition so as to bring to public attention the good examples of small homes designed and built during the past five years.

All questions concerning the competition may be sent to Better Homes in America, 1653 Pennsylvania Avenue, N. W., Washington, D. C. The conditions governing the competition are covered in the memorandum which follows:

Conditions To Govern Entries

(1) The competition closes on December 1, 1931.

(2) The awards are to be made to practicing architects for the best design submitted in each of three types of houses—three medals in all.

(a) One story house
Storage space but no living accommodation may occur in roof space.

(b) Story and a half house
Living accommodations partly in a second story which is actually a "half story."

(c) Two story house.

(3) *Size of House.* The awards are aimed to discover and call attention to the best small houses actually constructed during the given period and thus to stimulate interest in overcoming the faulty design and construction of the really small house. To this end the actual cube of the house, above the level of the first floor, shall not be greater than 24,000 cu. ft. except for two story houses for which a cubage of 26,000 cu. ft. is permitted. Open porches estimated at ½ cube.

(4) *Documents to be submitted.* Floor plans, blueprints or otherwise, showing first floor, and second floor if it has living accommodations. Two elevations. One or two photographs of exterior, preferably two. Two photographs (but not more than two) of interior may be submitted if desired, but the award is to be based upon the design of the structure, not on its furnishings, and interior photographs if submitted should be selected with this in mind.

(5) *Date of Construction.* This award is intended as an annual award. Houses entered for the 1931 award shall be those the construction of which was finally completed between the years 1926 and 1930 inclusive. Designs of houses which have been submitted in any given year cannot be resubmitted to the committee in later years.

(6) *Shipment of Exhibits.* Exhibits shall be shipped addressed to Better Homes in America, c/o the American Institute of Architects, 1741 New York Ave., Washington, D. C., so as to be received not later than December 1, 1931. They will be handled as carefully as possible but must be sent at the risk of the sender. If any value is placed upon them by the sender he should take such steps as he sees fit to insure against their loss.

Better Homes in America shall have the right to publish illustrations of designs awarded medals, and such other designs submitted as may be deemed desirable.

Exhibits will be returned to exhibitors at the expense of Better Homes in America.

(7) *Jury.* The Awards will be made by a jury of five architects appointed by the President of The American Institute of Architects. The awards will be made and announced about January 1, 1932, or as soon thereafter as practicable.

The jury is not required to make any or all of the awards should there be no houses submitted which in its opinion deserve a medal. In addition to the medals, however, the committee may also grant honorable mentions to designs which are deemed worthy.

Prizewinning designs will be published and designs winning honorable mentions will also be published at the discretion of Better Homes in America. Any publication of the designs which are awarded medals or honorable mention will be copyrighted and due prominence will be given to the name and address of the designer and with the statement that the design is his private property.

NEW YORK'S SKYLINE

(Springfield Republican)

A letter to the New York *Times* from Kennebunkport, Me., tells New Yorkers what's what as to their boasted skyline:—

All the "bunk" about its beauty to the contrary notwithstanding, the skyline of New York is composed of a lot of architectural jesters erected to serve the exigencies of the hour. None will remain after the crowding becomes unendurable.

A gentleman from Kennebunkport should be proficient in detecting "bunk" and adept at "debunking." To be sure, this critic may be only a summer resident, though the name of Dow suggests Maine affiliations. If Mr. Dow can imagine a time when New Yorkers will really find the crowding "unendurable," he has a more constructive — or perhaps destructive — vision than the city's real estate men and financial experts. Midtown skyscraper expansion has, to be sure, halted. But that is on account of the business depression, and not because anybody foresees street and sidewalk congestion so acute that tall buildings will become virtually inaccessible in rush hours — though that is a possibility of the future.

As to the life of individual skyscrapers and their utilitarian purpose, the Maine remonstrant is no more cynical than some of the architects themselves. Someone recently criticized the design of the *Daily News* Building, designed by Raymond M. Hood, an eminent architect of Rhode Island birth. In reply, Mr. Hood wrote: "It was built to please and satisfy, to the best of my ability, the *News* and the other tenants who would occupy and help pay for it. I did not feel under the same obligation to people who would merely look at it or write about it. . . . It is a building that will doubtless be torn down in 20 years or so."

Other architects, including Harvey W. Corbett, have insisted that it was the business of an architect to make a commercial building beautiful —that, in short, the architect as well as the owner of the building had an obligation to the public and the owners and tenants of adjacent real estate. But Mr. Corbett joined with Mr. Hood in promoting the Radio City plan on a basis of such ruthless utilitarianism and uninspired commercialism that public taste rebelled. So, all in all, when Mr. Dow of Kennebunkport declares that skyscrapers are architectural jesters doomed to short life, he will not provoke much of a quarrel with some leading architects, even though their predictions of early demise may rest on different assumptions.

The skyline as a whole is a matter of grouping in the eye—of pinnacles and towers seen in conjunction. Many have found there a picturesqueness and even a beauty which inhered in only a few of the tall buildings individually. The Irish poet and editor, AE, thought New York's "gigantic mass of heaven assailing architecture" one of the great sights of the world, "soaring above the dreams imaginative artists have conceived of the Towers of Babel." AE's impression of skyscrapers was formed from shipboard several years ago, before the newer unsightly structures close to the river had been built and before the down-town section had become so confusing to the eye.

Returning from France the other day William F. Lamb, architect of the imposing Empire State Building, suggested that skyscrapers needed actual grouping in order to produce the best results, practically and esthetically. If New York had only realized this 30 years ago, and had compelled the surrounding of tall structures with structures of lesser height, the jumble which now strikes the eye would have been prevented. Also, there would have been less danger of the "crowding" which may yet bring the financial ruin of skyscrapers, as the Maine man predicts. And architects would have felt challenged to produce designs worthy to last longer than 20 years—though 20 years is rather a long time to live or work in close proximity to needless ugliness.

AGED LADIES HOME

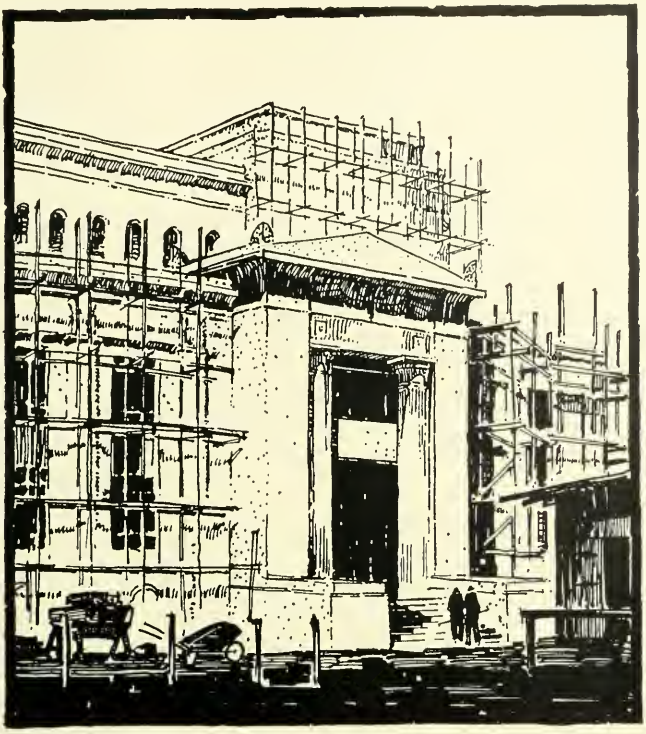
Construction has been started on a $200,000 building for the University Mound Old Ladies Home at Bacon and University Avenue, San Francisco, from plans by Coffey & Rist, architects.

E. N. CURTIS HONORED

Ernest N. Curtis, architect, has been made chairman of the San Jose Planning Commission. City Engineer William L. Popp is secretary and M. H. Antonacci engineer for the commission.

ARCHITECTURE REFLECTS TIMES

"Architecture records with unerring accuracy the history and character of each period of civilization or lapse into barbarism.—*Cass Gilbert.*



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An Illinois corporation has been formed known as Benedict Stone Products Company, which has taken over the assets of Benedict Stone, Incorporated, manufacturers of cast stone, whose material is well known to the architectural and building interests throughout the country.

Benedict Stone Products Company is closely affiliated with Massey Concrete Products Corporation. The general offices are located at 122 South Michigan Avenue, Chicago.

J. W. Lowell, who becomes Vice-President of Benedict Stone Products Company, has for many years been prominently connected with the development of "Benedict Stone" and is largely responsible for the outstanding success of this product. Mr. Lowell has had wide experience in the concrete field, particularly while engaged in research work for the Universal Atlas Cement Company.

ALUMINUM FENCE BOOKLET

One of the recent developments in the fence industry has been the adoption of aluminum for the manufacture of woven wire fences. It is meeting with widespread approval by the trade, due to the fact that it is non-corrodable and does not require periodic painting to keep it in perfect condition.

Although the initial cost is higher than for fence made from other metals, it is actually lower in cost over a period of years, when all factors are taken into consideration.

A booklet entitled "Why Aluminum Fence," outlining the development of aluminum and why it makes a better fence, has recently been issued, and a copy may be secured from the Page Steel & Wire Company, Bridgeport, Conn.

NEW FENCE BOOKLET

A new fence booklet which contains many illustrations of typical fence installations, has recently been published by the Page Fence Association. It also contains various style sheets of chain link and wrought iron picket fences, and includes logical reasons why a well-fenced property is a paying proposition. This booklet is titled "The Border Patrol" and may be had by addressing the Page Steel & Wire Company, Bridgeport, Connecticut.

OAKLAND MORTUARY

Raymond De Sanno, architect, 2584 Milvia Street, Berkeley, is preparing working drawings for alterations and additions to the Hill and Kammerer mortuary at 3479 Piedmont Avenue, Oakland, estimated to cost $25,000.

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OFFICE AND WAREHOUSE FOR LARSEN & LARSEN, SAN FRANCISCO
Kent and Hass, Architects

Larsen and Larsen, general contractors, have recently moved into their new office building and warehouse at 629 Bryant Street, San Francisco, a photograph of which is shown above. The building was designed by Messrs. Kent and Hass, architects. It covers ground area, 50x160 feet and besides ample storage facilities for building materials and construction equipment, has an entire floor given up to offices and estimating rooms.

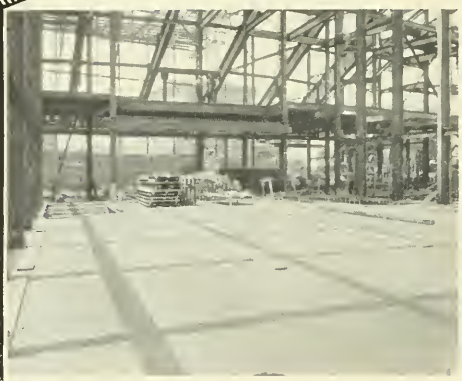
Larsen and Larsen are one of the pioneer construction firms in the Bay Region and during the past ten years they have completed such important contracts as the Merchants Ice & Cold Storage plant, Hellman mayonnaise factory, Roosevelt school, (masonry work) all in San Francisco; Masonic Home (five buildings) Decoto; Hazel-Atlas glass factory, and Mutual Stores, Oakland; Diestel warehouse, Alameda County; Alex Baldwin office building, (masonry work), Honolulu; Jorgensen Steel Company plant, Oakland; Southern Pacific depot, Sacramento (masonry work) and the Westphal house, Lake Tahoe, the latter illustrated in detail in this issue.

ARCHITECT'S OFFICE ABOLISHED

Abolition of the office of County Architect, elimination of about twenty positions in the present county architect's organization, and the transfer of the remaining employees and duties of the department to the Mechanical Department, were effected by the Los Angeles County Supervisors January 27.

The ordinance takes effect the end of the month. After August 27th all county architectural work, preparation of plans, and supervision of construction, will be under the direction of William Davidson, Chief Mechanical Engineer, Hall of Records, Los Angeles.

Architects: J. R. Miller and T. L. Plueger
Contractor: George Wagner



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Its cost is so slight as to be negligible. It is less than for any comparable system of curing and it gives protection and curing in one operation. Sisalkraft is available at lumber dealers in widths from 3 to 7 feet.

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205 W. Wacker Drive (*Canal Station*)
Chicago, Illinois
55 New Montgomery St., San Francisco, Calif.

SISALKRAFT

A & E 8 Gray

SANITARY DRINKING FACILITIES

Comparatively few persons are aware of the dangers of contamination that exist in the serving of water by the ordinary drinking fountain. Employers who would not offer their employees a common drinking cup will supply a vertical-jet fountain without realizing that they are providing a drinking facility with the same dangers as a common cup.

Until recently any person who, recognizing this danger, has tried to buy a sanitary fountain has faced the problem of making a selection from the many types manufactured without satisfactory information about features essential for sanitation. Seriously concerned, the Women's Bureau has tried to meet this situation and the resulting problems encountered in its investigations of establishments and in its interviews with employers, through the preparation of a set of standards for sanitary drinking fountains in bulletin form, based on the combined experience of all those who have been working in the field. In this connection the Women's Bureau acknowledges the valuable assistance of such organizations and groups as the American Water Works Association, the American Public Health Association, the Conference of State and Provincial Health Authorities and the United States Public Health Service. The standards for sanitary drinking fountains advocated by these agencies have been included in the bulletin.

The bureau has two purposes in the publication of this new bulletin entitled "Sanitary Drinking Facilities": First, to help employers to select fountains of sanitary design by making available to them the best standards that have been formulated, and second, to call attention to the dangers to health that exist in unsanitary drinking facilities.

Tests of the sanitation of drinking fountains show that all types of vertical-jet fountains are easily contaminated and retain disease germs for some time and that many angle-jet fountains may be contaminated by improper use. Among the standards of the American Public Health Association for the design and construction of drinking fountains, published in full in the bulletin, are the following: 1. Fountains shall be of impervious material, as vitreous china, porcelain, etc.; 2. Jet shall issue from nozzle . . . set at an angle from the vertical. Nozzle and every opening in pipe or conductor leading to nozzle shall be above edge of bowl, so that nozzle or opening will not be flooded if drain from bowl becomes neglected. 3. Nozzle shall be protected by non-oxidizing guards. . . .

Most of the fountains in use at present do not meet these requirements. Of about 1,500 places of

employment in 21 States inspected by the Women's Bureau from 1923 to 1929, and reported upon in the bulletin, more than 40 per cent had fountains for all or some of their employees, but less than 15 per cent of those for which the type of fountain was reported had the angle-jet type. The common cup was found in about one-fourth of the establishments. A committee of the American Water Works Association reported after inspecting a large number of fountains installed in 1923 that less than 10 per cent were of the design that prevents infection from being transmitted directly from one person to another.

Included in the bulletin is an analysis in chart form of the State laws, regulations and recommendations pertaining to drinking fountains in places of employment. It may be stated, however, that the majority of these laws and regulations on the matter of drinking facilities do little more than prohibit the use of the common cup.

NEW DECORATIVE TILE

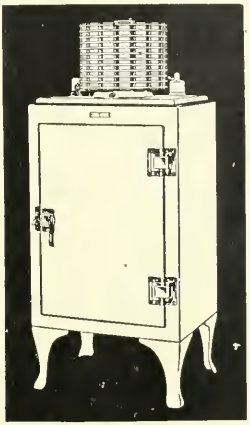
The Ceramic Art is one of the oldest of the building arts and during the years of its development, many of its secrets have been won and lost during the rise and fall of various civilizations that have particularly favored the use of glazed clay.

Gladding, McBean & Co. in a search for new methods, have recently developed some very interesting decorative tile that is essentially modern in its fabrication and design. The use of modern tools by trained designers in applying patterns by hand in carefully adjusted relation to other glazes, has resulted in a distinctly modern style of drawing that is in no way an imitation of the older methods of hand painting. This permits an opportunity for the gradual development of a technic in drawing ornament and other design that is an expression of present day factory production.

Furthermore, it adapts itself most readily to designing on light colored machine made clay bodies which are used so extensively for bathroom walls. The application of design by hand softens and graduates the color and outline and takes away the mechanical quality of decorative tile.

There have also been some lovely bright glazed faience colors developed in addition to the regular line of matt pastel shades. These new brights have been particularly well received, especially the water greens for swimming pools and the creams for baths and kitchens.

ECONOMY *for the apartment owner* SATISFACTION *for the tenant . . . .*



Each General Electric Refrigerator is under the tenant's private control. One refrigerator cannot affect another.

NOW, more surely than ever, guaranteed General Electric Refrigeration means investment safety, income protection and rental attraction. In the remodeled two-family or the de luxe skyscraper, General Electric Refrigeration is better for the landlord and tenant.

The architect and the builder who has specified and equipped scores of apartment buildings knows that individual General Electric Refrigerators in each apartment means lower cost of maintenance and operation—lasting satisfaction.

The L. H. Bennett Company, Inc.

Northern California and Nevada Distributor
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FERALUN

SAFETY TREADS . . . Any Design for Any Purpose

From practical and architectural standpoints, Feralun Safety Treads are greatly favored. They afford positive protection against slipping accidents. They may be obtained in any design for stairways, thresholds, gratings, platforms and other places where precaution against slipping is necessary.

Gunn, Carle & Co. Ltd. will assist you in obtaining any tread form for any purpose.

GUNN, CARLE & CO., LTD.
444 Market Street San Francisco
SUtter 2720

FLOOR LACQUER

There is, perhaps, no one subject about which the general public knows so little as floor finishing and maintenance.

Lacquer is not entirely a new process, as it was used 250 years B. C. by the Chinese and they, in turn, taught the Japanese to use it. The latter nation has far excelled all others as producers of lacquer for furniture and decorative purposes, but they have not advanced in making lacquer for floor finishes. However, after years of actual experiments and laboratory tests, lacquer is fast becoming the favored floor finish of today.

There are various lacquers on the market, but very few are suitable for floors. A floor lacquer must be made for that purpose because of various conditions, such as heavy foot-wear; it must not scratch white; it must stand up under break-down tests with acids, water, oils, grease and other conditions. By using such a type lacquer the life of a floor is greatly prolonged, maintenance cost is reduced and less cleaning and polishing are required. The appearance of the floors, too, is improved by the use of lacquer.

Floor lacquer creates a solid surface which eliminates the places for breeding of germs and is therefore recommended for hospitals, doctors' offices and mortuaries.

Lacquer is now a standard treatment for cement, hardwood, magnesite and linoleum floors. It is used in hospitals, schools, gymnasiums, swimming pools, ferryboats, public buildings and homes.

ELECTED PRESIDENT

H. J. Brunnier of San Francisco has been elected president of the State Board of Registration for Civil Engineers.

Donald M. Baker, Los Angeles, retiring president, is now vice president, and Albert Givan, Sacramento, is secretary.

The board will hold examinations for civil engineers' licenses in October in San Francisco and Los Angeles.

PERSONAL

James W. Plachek, architect of Berkeley, and Mrs. Plachek are enjoying the summer abroad.

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This month—Note the raise in prices of linseed oil. Lower prices in turpentine, excavating, mill work.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $31 to $36 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $12.50 plus cartage.
Face, f. o. b. cars, $45.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. cars in carload lots).

3x12x12 in.	$ 75.00 per M
4x12x12 in.	85.00 per M
6x12x12 in.	124.00 per M
8x12x12 in.	188.00 per M

HOLLOW BUILDING TILE (f.o.b. cars in carload lots).

8x12x5½	$87.00
6x12x5½	60.00

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Duraflex Floor—23c to 30c sq. ft.
Rubber Tile—55c per sq. ft.
Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Eliot pea gravel, at bnkrs.	1.75 per ton
Washed gravel, at bnkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an automatic elevator in four-story building, $2450; direct automatic, about $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, such as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	58.00 per M
1 x 4 No. 2 flooring	50.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	52.00 per M
1¼x4 and 6 No. 2 flooring	60.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$130.00 M ft.		
1 1-16x2¼" T & G Maple	140.00 M ft.		
⅞x3½ sq. edge Maple	127.00 M ft.		
	13-16x2¼" T&G	⅝x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$220.00 M	$160.00 M	$178 M
Sel. Qtd. Oak	150.00 M	122.00 M	131 M
Clr. Pla. Oak	155.00 M	110.00 M	113 M
Sel. Pla. Oak	132.00 M	79.00 M	97 M
Clear Maple	147.00 M	101.00 M	

Laying & Finishing 16c ft. 15c ft. 13c ft.
Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.50
Sisalkraft, 500 ft. roll	5.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $75.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.75 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.50 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

NOTE—Above quotations are for 7/8 inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Verde Antique	3.00 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft
Tennessee	1.70 sq. ft.

Painting—

Two-coat work ..... 30c per yard
Three-coat work ..... 40c per yard
Cold Water Painting ..... 8c per yard
Whitewashing ..... 4c per yard
Turpentine, 85c per gal, in cans and 75c per gal. in drums.
Raw Linseed Oil—$.89 gal. in bbls.
Boiled Linseed Oil—$.92 gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

Per Lb.

1 ton lots, 100 lbs. net weight 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb. lots 12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt. 11¾c
500 lb. and less than 1 ton lots 12c
Less than 500 lb lots 12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt. 13¼c
500 lb. and less than 1 ton lots 13½c
Less than 500 lb. lots 14c
Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $7.50 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 13 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.

Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$90 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $86.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' hodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including engineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' hodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's hodcarriers, bricklayers' hodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

FEDERAL BUILDING PROGRAM

By Louis La Beaume, F.A.I.A.

THE Sixty-fourth convention of the A. I. A unanimously adopted a statement and two resolutions which were proposed by the Board of Directors. The statement and the resolutions—as adopted—follow:

The report of the committee on Public Works, comprising a thorough historical survey of Federal building activities, extending over a long period of years, has been received by the board. In addition to this report the board has received numerous resolutions by Chapters, in various parts of the country, protesting the present composition and policies of the Office of the Supervising Architect of the Treasury, and also communications in similar tenor from many other sources.

After careful consideration of all these documents, and board makes its own statement on the Federal building program, as follows:

The willingness of the architectural profession as represented by the membership of the Institute to cooperate with the Federal government is well known, and we are proud of the contributions which the Institute and civic organizations, with the aid of sympathetic government officials, have been able to make toward the planning and development of Washington, our Capital City.

For thirty years this cooperation has been freely given through the services of many distinguished architects serving without compensation on the McMillan Commission, the National Commission of Fine Arts and the National Capital Park and Planning Commissions, supported by the American Institute of Architects throughout the country.

We welcome every opportunity to make available to the Government the best professional ability which the country possesses in order that the splendid example already established in our national capital may be extended to every community where these ideals may be reflected and emphasized in our Federal architecture.

Great sums of money have been appropriated by the Congress for the erection of many governmental structures in all sections of the country. Under the stress of circumstances, despite the large organization of the Office of the Supervising Architect of the Treasury, few out of many projects have been assigned to architects in private practice, but it is the conviction of the architectural profession that public policy will be best served by a further extension of this work into the hands of able architects resident in the localities which the buildings are designed to serve.

We believe that the country is entitled to the services of the best architectural talent available.

Entrance Vestibule, Shell Oil Building, San Francisco
Walls of French Botreville Marble
Geo. W. Kelham, *Architect*
P. J. Walker Company, *Builders*

▼ ▼ ▼

All Interior Marble
In the Shell Building
Furnished and Installed by the

American Marble Company

Also all Marble Work in the Christian Science Sanatorium, San Francisco.
Henry H. Gutterson, *Architect.*

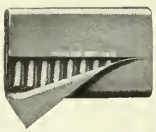
▼ ▼ ▼

American Marble Company

1504 Hobart Building
San Francisco, California
Telephone MArket 5070

COWING
Pressure Relieving
JOINT

Patented September 1, 1925



Insures Facades Against Cracked or Broken Facing Blocks

RAND TOWER, MINNEAPOLIS
Holabird & Root, Architects

THE Cowing Joint is installed in the columns and weight carrying mullions at a mortar course. Its purpose is to relieve pressure thrown on the facing material by compression of steel, temperature changes, vibration and wind stresses. Experience has proved that these severe stresses, unless relieved, will crush and break the stone, terra cotta or marble.

Where the Cowing Joint is installed at each story height the building is completely insured against cracks and spalls, the mortar joints are protected from crushing and the maintenance cost of tuck-pointing is eliminated. The facade is in no manner weakened because the Cowing Joint carries the normal weight of the facing material and compresses only enough to relieve the stress.

See "SWEETS" Catalogue

Cowing Pressure Relieving Joint Co.
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and that the concentration of so large a volume of work as the present appropriations provide, into the hands of a single Government bureau must inevitably tend to produce stereotyped, mediocre, uneconomic, and uninspiring results.

We believe further that our national policy of encouraging private business initiative is wise: and that therefore the operation of the Office of the Supervising Architect of the Treasury is inconsistent with this policy, and an invasion into the field of individual professional activity.

In urging upon the Government the desirability of availing itself of the services of architects in private practice, we stress the importance of the care which must be taken in their selection. That they should be chosen for reasons of fitness alone, and on the basis of their records, cannot be too strongly emphasized. Their selection should be left to a board which might be composed of the Chairmen of the Public Buildings Committees of the Senate and House, a representative of the Department concerned, disinterested architects and a qualified layman representing a national civic or business organization.

We affirm that our Federal buildings in all parts of the country should proclaim the highest standards of enduring architecture. The special customs, traditions and local resources of the communities in which they are located should be recognized and met in their design. Such standards of excellence can be achieved only by enlisting the best ability in the architectural profession. Men capable of producing these results are not to be found in subordinate capacities in government bureaus, certainly not in numbers capable of creditably carrying into effect the greatest national building program the world has ever known. This condition is recognized and clearly stated in the words of a distinguished Secretary of the Treasury, Franklin MacVeagh, concerning the functioning of his own Department. He said, in 1912:

"Our Federal Government is the largest builder of buildings ever known in the world—and its building enterprises are to be far more important; and the fact that it builds in every part of our great country gives it an unexampled influence upon the architectural art of the entire people. It cannot avoid affecting the growth of good architecture in all communities; for the effects and influence of our building operations are completely nationalized. The Government, therefore, enjoys in its building operations a tremendous opportunity for good, in the judgment of all who regard architecture as one of the important factors of the higher civilization. This opportunity is really unexampled.

"The elimination from the service of the Government of the knowledge, gifts and inspirations of all architects except those confined within the Treasury building, reduces our architectural dimensions to those of a single architect's office, and limits us to the architectural control of one man; whereas such continual building as we do, such opportunities of influence upon all the buildings in the country as we have, such responsibilities to the architecture of the nation as we cannot relieve ourselves of, demand that the Government should have at its disposal every bit of architectural ability that the nation possesses."

A government building policy should be consistent and general in its application. In his message to Congress outlining the building program for Washington, President Coolidge stated: "This program should represent the best that exists in the art and science of architecture." President Hoover confirmed this policy in an address delivered in April, 1929, in which he stated:

"It is the wish and the demand of the American people that our new buildings shall comport with the dignity of the Capital of America, that they shall meet modern requirements of utility, that they shall fulfill the standards of taste, that they shall be a lasting inspiration. In architecture it is the spiritual impulse that counts. These buildings should express the ideals and standards of our times; they will be the measure of our skill and taste by which we will be judged by our children's children.

"Mr. Mellon has insisted that the great responsibility before us is not one which can be discharged by any one individual. It must be the product of the common mind of many men, devoted to secure for America the vast realization of the expression of our Nation. And I am confident that we have within the Nation the taste, skill and artistic sense to perform our task, for our architects have already given to America the leading place in their great art."

The American Institute of Architects accepted these statements as expressing the general policy of the Government, not merely applicable to Washington. It is now faced with the fact that the departments in charge of the execution of the present nation-wide program have not been guided by this policy. Data furnished by the Government shows that while the public buildings in the National Capital have been entrusted to architects of distinguished reputation, the policy for the country at large has thus far been restricted to the appointment of comparatively few architects in private practice.

Outside of Washington, of 378 buildings to be erected in the United States, only 40 buildings

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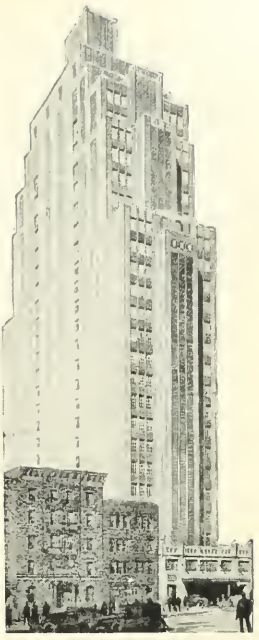

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in 18 states have been assigned to architects in private practice, leaving the remaining buildings in the Office of the Supervising Architect of the Treasury. The American Institute of Architects submits that this policy is unfair to the nation at large. The Institute reiterates its stand that every section of the country is entitled to public buildings which shall represent the best architectural ability of the nation.

The Board offers the following resolutions:

Resolved, That the American Institute of Architects, through its delegates assembled at its Sixty-fourth Annual Convention ratifies and approves the report of its Board of Directors relating to the Federal building program and to the desirability of enlisting the services of the nation's ablest architects in the execution of this program: and be it further

Resolved, That the incoming Board is directed to transmit the views of the Institute to the proper legislative and executive branches of the Government, and to take such other measures, in cooperation with the charges of this Institute and related organizations, as may be necessary to accomplish the aims expressed herein.

COMPETITIONS

By RICHARD H. PRETZ

"Individuality is sacred"—*Frank Lloyd Wright*

For you who have awaited the announcement of awards in any one competition and felt discouraged when not placed in the respective judgment, shame on you! If you had arrived at your solution alone, that particular problem was seen through your eyes for the first time in the history of architecture. You were born to give the world a solution that had never been seen before; therefore, remain loyal to the integrity with which your problem was solved.

Your ability is stronger for the study given it —stronger without tradition. If you have expressed yourself, therein lies your strength; and conversely, your strength lies in your ability to criticize yourself. Your work becomes more perfect in proportion to your ability to improve each preceding endeavor. Your improvement will cultivate such fine attributes of character as common sense, courage, magnanimity. You will become judicious, and what you consider perfect today, you will improve tomorrow.

The man who practices to avoid criticism never says anything and, consequently, never does anything. He compromises, is lost in mediocrity and forgotten forever. Love for life wants a vigorous, virile, original character. A character to create and not alone to design. He must control himself for the best he can offer whether as an individual or a cog in some powerful, efficient, beautiful machine.

A competition is held because no two architects think alike, nor do any two of the jury. The first fallacy lies in the selection of this jury which, in order to be a criterion, is made up of kindred spirits, prejudiced in their associations. They go to

work to agree, setting aside the worst and best of the works until a compromise is reached. So the average competition becomes nothing more than an average of averages. Perhaps more competitions have been won through the competitor's ability to know his jury than to design. I have often known competitions for study abroad to be tackled in just that light, and usually the men who did so have won. I know, for I have both won and lost competitions. More original thought has seemed to be crushed by critics than has been produced. Be fair and face the facts, give each new thought its due time and USE. Criterion of the Ages, will pass judgment.

RENO AWARD DISPUTED

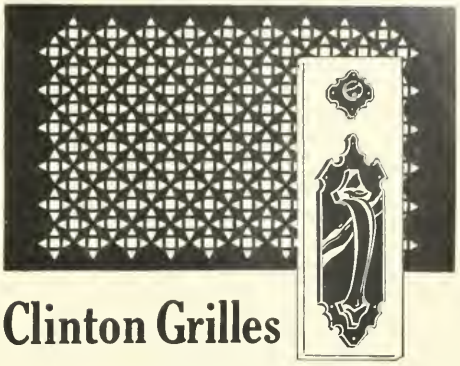
A temporary injunction restraining the board of trustees of the Washoe County (Nevada) public hospital from awarding the contract for the new hospital building to J. C. Dillard of Reno, Nevada, at a price of $198,997 when the K. E. Parker Company of San Francisco, put in a bid of $184,800, was issued by Judge B. F. Curler, following filing of a suit by a number of taxpayers.

The plaintiffs in the case are W. L. Samuels, Eliza Hill, Ralph W. Shearer, Dora R. Shearer, L. A. J. Rose, Harry Bony, C. W. Westover, Irene S. Ginnocchio and Edna Lukey, and defendants are the trustees of the hospital, C. W. Nottingham, J. La Rue Robinson, Wm. McKnight, Mrs. Frank Humphrey and E. C. Mulcahy.

As taxpayers, the plaintiffs set out that the board of hospital trustees advertised for bids for the hospital after submitting plans and specifications to bidders, and that the K. E. Parker Company bid $184,800, and that J. C. Dillard bid $198,997.

The board has threatened to reject the low bid of the Parker company, the complaint charges, and to accept the Dillard bid, and it is alleged that the board has no authority to award the contract to the higher bidder, Dillard. It is charged that the taxpayers of the county will have to pay at least $14,197 in excess of the lowest bid if the contract is awarded to Dillard.

At the time of the award (July 25) it was said that the board had eliminated a number of features from the plans which permitted the Dillard bid to be accepted, and that under the circumstances it was able to give the work to a local contractor, who would use local labor to a great extent as well as locally made materials.



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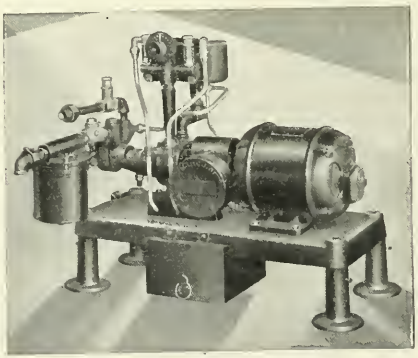

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STEEL BRIDGE AWARDS

The Washington Avenue bridge in Chicago and the Delton bridge in Sauk county, Wisconsin, have been judged to be the most beautiful bridges of their class built in 1930 in the United States and Canada. A jury of leading architects and engineers recently announced its decision.

The Washington Avenue bridge is a bascule bridge over the Chicago river and cost $1,750,000. It was designed by Thomas G. Pihlfedt, Chicago city engineer of bridges, and fabricated by the American Bridge Company. The bridge span is 239 feet and the roadway 90 feet wide. The award was made in that class of large bridges costing over $1,000,000 to erect, of which there were a number during the past calendar year. Honorable mention in this class was given to the Mid-Hudson bridge at Poughkeepsie, New York, a suspension bridge designed by Ralph Modjeski and Daniel Moran for the State of New York, and erected by the American Bridge Company. Second honorable mention was awarded to the Montreal Harbor bridge. This is a cantilever bridge designed by Monsarrat & Pratley, Montreal.

The jury exercised their prerogative in deciding not to make awards in Class B because no entrant of sufficient merit was recorded. This class included bridges costing between $500,000 and $1,000,000 to erect. Of those bridges costing less than $500,000, grouped in Class C, the steel arch highway bridge at Delton, Sauk county, Wisconsin, was selected as the most beautiful. This bridge cost approximately $54,000. It was designed by the Wisconsin State Highway Commission and fabricated by the Lakeside Bridge & Steel Company. It is an arch bridge having two spans of 218 feet 10 inches each and carrying a roadway 27 feet wide. Honorable mention in this class was awarded to the Lachine bridge across the Lachine canal, Lachine, Canada. This bridge is 47 feet long and cost $3,100. It was designed by R. Dorion, city engineer.

ARCHITECTS HEAR TALK ON WOOD

On June 9th architects and engineers of Tacoma and southwest Washington, were guests of the Wood Promotion Committee of the 4-L. Discussions on technical factors of wood construction, were led by Ernest Dodge of Tacoma, J. W. Pauw and Chester Hogue of the West Coast Lumbermen's Association and others. Roland E. Borhek, Earl N. Dugan, Nelson Morrison, W. W. Durham and Fred G. Rounds were among the architects present.

SAFETY OF HOOVER DAM

M. H. Gerry, Jr., Declares Design of Gravity Section Is Inadequate

AN article by M. H. Gerry, Jr., consulting engineer of San Francisco, on "Safety Limitations of Hoover Dam," in the July issue of *Civil Engineering*, official publication of the American Society of Civil Engineers, makes an open attack on the adequacy of the plans for the dam and the rather startling assertion that, as at present planned, it has "no known margin of safety." Briefly, the writer's contention is that the sliding factor of the proposed dam is greater than the coefficient of friction upon which reliance must be placed for safety of a gravity dam; that the arch action counted upon in the design to give it a certain factor of safety has no determinable value, but on the other hand is a point of weakness, and that sufficient allowance has not been made for the uplift pressure which would tend to overturn the structure. He estimates the added cost of making the proposed dam safe at $5,000,000, presumably by increasing the mass, although he does not state just how the dam should be redesigned. Reclamation Bureau engineers connected with the Hoover dam project have denied the claims made by Mr. Gerry, insisting that the design is in accord with the best engineering practice and based on a thorough study of conditions at the dam site.

Since special emphasis has been placed on the publication of Mr. Gerry's criticism in the magazine of the American Society of Civil Engineers, it is well to note that the "Society is not responsible for any statements made or opinions expressed in its publications."

Following is Mr. Gerry's article

"Public interest in the construction of the Hoover dam and its related works is so great that a full and free discussion of its essential engineering features in the forum of the Society requires no further justification. In an article published in the October issue of *Civil Engineering*, Elwood Mead, M. AM. Soc. C. E., U. S. Commissioner of Reclamation, describes the proposed structure, and this information has since been supplemented by detailed specifications issued by the Reclamation Bureau.

"In this great undertaking, considerations of safety should come above all else. Of this there can be no doubt, for it is not a question of morals alone; it involves as well the most tremendous financial responsibility. That the Hoover dam should fail is unthinkable, or that there should exist, after its completion, a justifiable fear for its safety would be a matter of gravest public concern.

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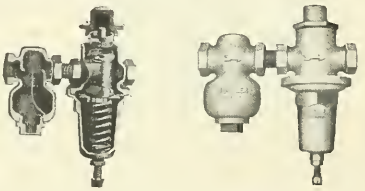

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"A comparison of the sections and relative arcs of the St. Francis and Hoover dams is of especial interest in view of the fact that the weakest parts of the new dam appear to be the end sections, which have bases founded on the canyon sides at elevations of 300 feet and less below the crest.

"The natural rock at the site is said by the Reclamation Bureau to have good sustaining ability. It consists of tuffs and flows of volcanic breccia and is of a character usually regarded by engineers as irregular and somewhat uncertain until demonstrated to be otherwise by full exposure. Granting that it will be found to have

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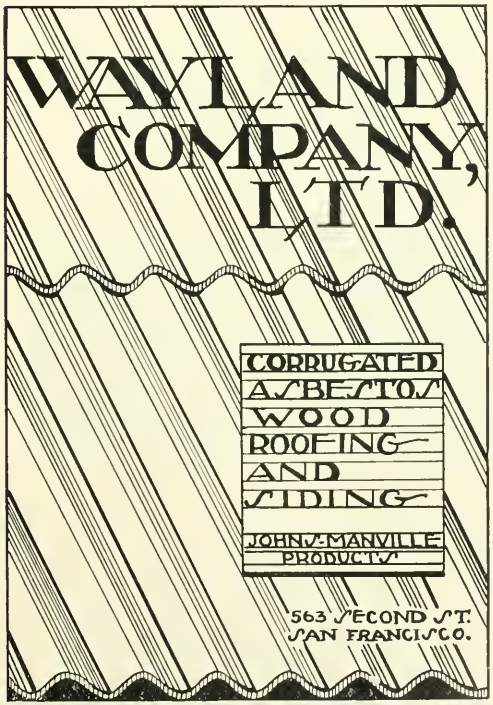
ample strength in compression throughout this rock is nevertheless by its nature permeable in water, and it has a low coefficient of friction. Prudence suggests a very conservative structure for such foundations.

"Furthermore, clear thinking as well as sound engineering dictates that all highly controversial questions, and all assumptions of fact involving the strength and physical characteristics of construction materials, be determined on the side of safety. Also, that where a choice is possible in design, as between a determinate and an indeterminate system of support, the decision ought by rights to be in favor of the more certain practice, even at a greater cost.

"As Dr. Mead has well said, this project is one of the greatest engineering enterprises in the world. It is, therefore, of the highest importance that the design be examined in the light of the fundamentals of technical science.

"The dam will be nearly twice the height of any now in existence, and it follows that the horizontal water loading per lineal unit of the maximum section will be four times as great. From the published specifications, it is apparent that the effective gross weight of the main structure will be in the neighborhood of 6,800,000 tons, and the maximum horizontal water pressure, acting in a



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downstream direction on the projected section of the dam, will be about 3,500,000 tons. These round figures represent, respectively, the total vertical loading on the foundations, and the gross horizontal force tending to move the structure downstream. In the last analysis, they must be sustained at the rock surfaces by reaction to compression and by friction.

"As applied to the structural mass, the forces will be redistributed and balanced to some extent by water pressure acting vertically upward on the base of the dam, and horizontally in an upstream direction on that part below tailwater elevation. The normal submergence of the maximum section on the downstream side appears to be about 140 feet at low water, increasing to perhaps 180 feet at flood. The uplift pressure, acting above the tailwater elevation, may be taken as full head at the heel, decreasing uniformly to zero pressure at the toe. Determined in this way, the total underpressure acting upward on the base of the dam is ascertained to be approximately 3,200,000 tons. This amount deducted from the total weight will leave a net unbalanced vertical loading of 3,600,000 tons. The total net horizontal loading acting in a downstream direction, after allowing for the reverse pressure of tailwater, is found to be about 3,400,000 tons.

"The computations here given are based on conservative unit weights and pressures, when acting under normal conditions. The figures may be altered to a limited extent by varying the assumptions, but the general allegation of deficiency in respect to resistance to sliding will not be changed. On the other hand, the operation of any one of a number of possible contingencies would produce a most profound effect on the tendency of the dam to slide out of place. Among such contingencies may be mentioned the following: Overtopping of the crest from any cause; earthquake shocks; the formation in time of a colloidal sludge exerting a greater pressure than water; the occurence of severe vibrations due to a high rate of tunnel discharge, and the development of local pressure-head zones within the rock forming the canyon walls.

"It follows then that the sliding factor for the structure as a whole will be 3,400,000÷3,600,000= 0.94. This coefficient is based on the action of the dam as a monolith, and it is the most favorable assumption for resistance to sliding. It would be quite impossible, however, for this dam to continue to act as a unit up to the point of final rupture. The end sections would yield first, as a result of the large added loading transmitted to them by torsion from other parts lower down and nearer the center of the structure. The St. Francis dam

yielded in this way, and the Hoover dam would undoubtedly fail initially at the ends, in a similar manner. Also, when radial sections are analyzed separately, higher sliding factors are indicated toward the ends, and a slightly lower factor at the center.

"It is fundamental that a mass depending on friction for support will move out of place whenever the sliding factor is greater than the coefficient of friction for the surfaces in contact. A dam of gravity section is such a mass, and regardless of its strength as a structural unit, it remains in place solely by reason of reactions resulting from friction and is a factor of experiment and uncertain to a degree. In the April, 1930, issue of *Proceedings* (Papers and Discussions), Allen Hazen, M. Am. Soc. C. E., stated:

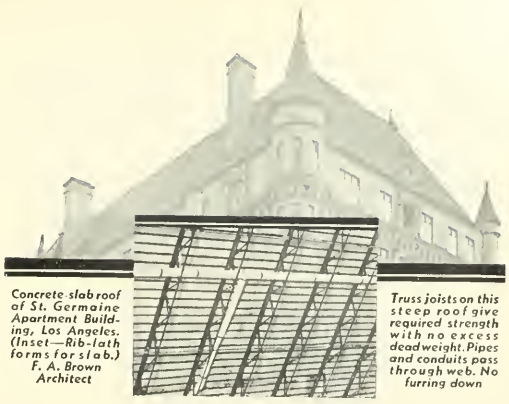
" 'There is reason to think that the friction of masonry on some rocks and of the rocks on themselves may be much less than would be prudently assumed for granite and other hard rocks.'

"From the many tests made during the past century, this coefficient of friction has rarely, if ever, been found to exceed 0.75 for rock or masonry surfaces under favorable conditions. And it has often been noted as less than 0.5, especially for hard rock or planes of cleavage. As the sliding factor for the proposed Hoover dam is thus found to be far greater than the coefficient of friction under any conditions, it follows that the structure will be unstable as a gravity section and must have additional support if it is to remain in place.

"Obviously, this secondary support is intended to be derived from arch action. To attain such a result, the load must divide at the right time and in correct proportion, and travel through alternative paths to separate rock supports developing co-ordinated elastic reactions. If the necessary amount of additional support does not develop as and when required, then the structure will yield at the weakest point, and will ultimately fail, as did the St. Francis dam.

"There never has been a rational solution of the problem of indeterminate support for arched gravity dams; nor is there likely soon to be one, for the primary reason that the complex distribution of stresses through so great a mass, involving reactions of cantilever and arch, and the large variability of the modulus of elasticity, are controlled in major extent by the physical attributes of the concrete and rock, the very elements of which are as yet unknown.

"By the testing of small-scale models many attempts have been made in the past, and are now being made, to appraise certain features of dam construction. In all such experiments heretofore recorded, the assumption has been that the structures were permanently and immovably fixed at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the base, and the models have been so constructed as to produce this condition in fact. Thus, there has been eliminated in advance from the investigation the most uncertain element in design and the greatest weakness in actual construction as now practiced.

"Many of the results obtained from model tests are of engineering interest as bearing on the fundamental relationships of stress and strain within limits of the experiments. But as dependable indications of the general security and safe performance of the particular structures under consideration, such model tests are of little practical value.

"At the present time, only unsupported opinion contends that arch action may be relied upon with certainty to relieve any considerable deficiency in a dam of gravity section. The more rational view is that a gravity section should be designed as such, with full allowance for uplift, and without dependence on any secondary means of support.

"If, then, judgment is based on what is believed to be the consensus of conservative engineering thought—if the existence of full uplift at the heel and at least the uncertainty of concurrent arch action is admitted—the inevitable conclusion is that the Hoover dam, as at present planned, has no known margin of safety.

"In the April, 1930, issue of *Proceedings* (Papers and Discussions), on page 868, B. F. Jakobsen, M. Am. Soc. C. E., made this pertinent statement: 'The writer can only insist that the factor of safety of a dam should be a calculable quantity and not something which is assumed; and he cannot agree to assume that arch action, in general has certain beneficial qualities, unless these can be shown to exist and their magnitude calculated.'

"It has, of course, been contended in some quarters that hydraulic underpressure does not exist, or that it may be overcome at the base of a dam by cement grouting and drainage. Technical opinion, however, in large majority does not concur with such views, but maintains that uplift is always present near the base, and that for safety it should be assumed as full head at the heel with zero pressure at the toe.

"Also in the April, 1930, issue of *Proceedings* (Papers and Discussions), page 873, H. de B. Parson, M. Am. Soc. C. E., made this statement: 'All reported observations under actual dams show the pressure of uplift. Uplift would seem to be an actual force, like gravity or reservoir water pressure. Recorded observations show that grouting under the upstream edge of the base does not eliminate uplift, and the assumption that it will is not founded on fact.'

"Likewise, it is quite generally admitted that although cement grouting of the rock, with drain-

age, may control ordinary leakage of water through cracks and fissures, nevertheless these precautions are unavailing in preventing the general distribution of water pressure throughout the interstices of the rock and concrete, and the resulting uplift at the base and at other points where structural nonconformity exists.

"This accounts for the apparent confusion found at present in the minds of engineers and the public regarding the safety factor claimed for this dam. In the article by Dr. Mead, in *Civil Engineering*, previously referred to, it is stated that the design is such that the maximum compressive stress in the concrete will not exceed 30 tons per square foot, and by inference this is presented as a measure of the safety of the structure. Nothing, however, could be further from the truth. While this stress limit is conservative, it cannot in any way establish the overall safety of the dam, because stress in the masonry is not the controlling factor.

"It is a well-known fact that any gravity dam of substantially triangular section, with a base of more than 0.75 of its height, will yield—by sliding out of place under sufficient water loading—long before overstress can develop in the concrete. The Hoover dam is a case in point, for considered as a gravity section, its factor of safety against sliding is less than one, although the stated stress for the concrete might be thought to indicate a safety factor of perhaps ten. Such misconception is unfortunate and ought to be cleared away in the interests of a better understanding of the risks involved.

"An examination of the plans and specifications, as published by the Reclamation Bureau, shows that unusual and elaborate precautions are proposed for controlling the temperature rise to be expected from the setting of the cement and for regulating many details of its placement and handling. For a government structure of such importance, a procedure of this kind can be justified, but only if it is accompanied by consistent thoroughness in other respects. The fact should not be overlooked that even the greatest care exercised in the manipulation of materials or in the details of construction, cannot overcome fundamental deficiencies in design.

"There is nothing whatever to indicate that this dam might fail by reason of normal overstress in the concrete, or on account of cracks and minor imperfections in the masonry. The danger lies not within the structure itself, but in the extent and the manner of support to be derived from the foundation rocks. It is there that improvement is essential if adequate safety is to be obtained.

"In this brief statement no attempt has been made to discuss technical matters not directly re-

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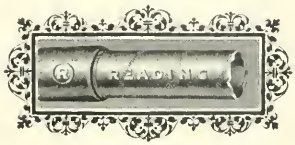

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lated to the hazard involved. The important and outstanding facts are that the Hoover dam, as now planned, not only is not a stable gravity section, but also is without any ascertainable margin of safety from secondary support.

"Furthermore, this situation is unnecessary and avoidable, because a gravity section can be so designed as to provide, with reasonable certainty, a fixed and safe limit to the risk. The added cost to secure a high degree of safety may perhaps be as much as five million dollars; but it is not too much to pay for security in this case. Rightly considered, this sum is but a trifling percentage of the total related investments, and its expenditure would be warranted as financial insurance, if for no better reason."

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THE SMALL SCHOOL STAGE

By DARIEL FITZKEE
of American Studios

I AM frequently called in to service architects designing stages for small schools. In these cases usually there are neither the funds available for elaborate equipment nor is there any particular reason for installing anything except the most simple of arrangements.

Naturally each individual case will vary somewhat, the safest rule to follow being the obvious one that the equipment should be planned with some idea in mind as to the extent the auditorium will be used.

* * *

In certain cases where the grammar school is the newest in the city — this refers particularly to the smaller towns—much of the stage activities of all of the local schools, even the high schools, may be held on this stage, as well as a major part of the community's activities. In that case a stage as elaborate as those in the smaller high schools may be advisable.

However, regardless of the size, I would make the stage the full width of the auditorium. The arch width is governed by the lines of sight, usually slightly more than one-half the width of the auditorium.

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case of the small school, limits your ultimate stage height, since there will be no attempt made to "fly" the drops straight up.

But there should be an absolute minimum distance of about four feet from the top of the arch to the lowest point in the ceiling above the stage floor. Otherwise the stage will suffer when it comes to equipping it. All curtains stretch—velours as much as six inches in as many weeks. There must be room for masking off the tops of these curtains, also to accommodate the suspension lines and turnbuckles for trimming, not to mention carriers and the like.

At the sides the absolute minimum distance from the edge of the proscenium arch to its respective side wall should be not less than eight feet. And on the right side the switchboard should not be closer to the edge of the arch than four feet.

* * *

While on switchboards, I might say that always there should be installed a board with silent switches. I do not say that the board should necessarily be elaborate. But what switches there are should not make a loud noise. Most of these small boards today sound like a tympani solo on tin cans, while being operated. The noise is always plainly heard in the auditorium.

Sixteen feet is a minimum depth.

Keep doors out of the proscenium arch. Or if they absolutely

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must be there put them as near the sidewalls of the auditorium as possible. Never put them close to the edge of the proscenium. At least four feet nearest the edge of the arch must be clear.

If you must have steps leading from the auditorium or basement onto the stage, keep them as far from the edge of the arch as possible. In the case of steps from the basement they are better put as near the sidewalls and as near the back wall of the stage as possible.

Don't make the mistake of thinking that one borderlight will adequately light such a stage. There should be a minimum of two. Put in four colors if possible.

Equipment for the small stage should consist of a front curtain and carrier; drapery cyclorama, with or without rotating wings and tracks; and a picture screen. The cylorama should include borders, side wings and a backdrop.

I shall go into more specific information on the stage equipment later.

* * *

Before closing let me call your attention again to the fact that I am talking about a *small* stage for a grammar school. If you try laying out a high school or theater stage like this you will find yourself into a fine lot of trouble.

If you want further information along this line in connection with this type of stage, write me in care of THE ARCHITECT AND ENGINEER.

AN ARCHITECT'S VIEWS

John Eberson, prominent Eastern theater architect, says:

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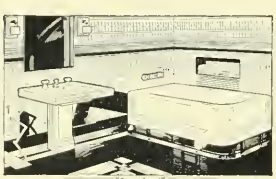

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The following notes are from *Theater Engineering:*

Several television stations will be completed by the Radio Corporation of America within the next year, according to a recent announcement of the organization's plans. One will be located on top of the new RCA building in New York, another will be on a still higher building in Chicago, while a third is to be located on the West Coast. Other locations are said to be pending. David Sarnoff, president of the corporation, declared last month that there will be no conflict between television in the home and motion pictures in the theater.

* * *

As the first move of the license department to prevent vaudeville performances in theaters that have not been designed for that purpose, 18 New York City houses were checked during the past month. Exhibitors have been warned to remove improvised stages from in front of the screen.

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No cuts in either the boxoffice scale or programs are contemplated by five major exhibiting circuits, according to a recent statement by officials of the organizations. The concerns questioned were Publix, Fox, Warner Brothers, Loew's and Radio-Keith-Orpheum. The statements follow in the face of persistent rumors to the effect that such cuts were contemplated. It is felt that the customary upswing of business in the Fall will be augmented by a general countrywide return to normal conditions.

* * *

Winifield R. Sheehan, vice-president in charge of producing activities for the Fox Film Corp., announced prior to his departure from New York for the Coast that his organization will discontinue the filming of gangster pictures.

As a result of the fatal shooting of a boy in Montclair, N. J., by his playmate, the editor and publisher of *The Parent's Magazine* have appealed through their publication for a nation-wide boycott of underworld pictures.

HOTEL RED BOOK

Hotels of over 25-room capacity, numbering 18,824, listed in the 1931 edition of the Hotel Red Book, just issued, have an investment value of over five billions of dollars and place the hotel industry seventh in importance and fifteenth in volume of sales, according to Thomas D. Green, President of the American Hotel Association of the United States and Canada, publisher of the directory.

The Hotel Red Book not only lists the hotels by states and city, but also gives names of the managers and other vital information. All proceeds from the sale of the books are devoted to the support and expansion of Association activities, which are directed from national headquarters, 221 West 57th Street, New York City.

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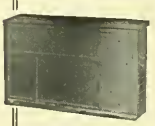

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HEATING EXPOSITION

With over half of its exhibit space already sold, the Second International Heating and Ventilating Exposition, to be held in Cleveland, Ohio, January 25-29, 1932, in conjunction with the annual meetings of the American Society of Refrigerating Engineers, is well on its way to duplicate and even surpass the success of the 1930 show in Philadelphia.

So many developments in heating, ventilating, and air conditioning practice and equipment have been reported since the previous exposition that the displays at the Cleveland show are being awaited with keen anticipation, since many of them undoubtedly will be in the nature of premier presentations of the latest apparatus and devices.

The exhibits, particularly those containing coal, gas and oil-burning equipment, will be seen in full operation. It will be recalled that this feature distinguished the previous exposition in Philadelphia and aroused wide comment, especially on the part of those interested in the gas and oil burner sections. Previous to that time it had been impossible for oil burner shows to overcome the ban of the local fire departments against the burning of oil and various were the expedients utilized by oil burner manufacturers to provide a semblance of reality to the operation of their burners. How inadequate these expedients were was realized only when the First International Heating and Ventilating Exposition in Philadelphia demonstrated by actual operation the flame characteristics of the different types of oil burners when installed in the boilers they were to operate.

An idea of the comprehensiveness of the Second International Heating and Ventilating Exposition is to be seen in the fact that it will embrace separate sections, one for the heating and ventilat-

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ing industry in general, an oil burner section, a gas section, and a warm air section. In addition to the endorsement of the American Society of Heating and Ventilating Engineers, the exposition will have the active support of the American Oil Burner Association and the American Society of Refrigerating Engineers. All three of these organizations will have booths at the show, making the exposition in fact representative of every branch of heating and ventilation.

ARCHITECTURAL BUREAUCRACY

Economic recovery is being held up by an "architectural bureaucracy" in Washington, according to George H. Gray of New Haven, Conn., Director of the American Institute of Architects for the New England Division.

"Pent up power for relief from the business depression lies in the Treasury of the United States in the form of appropriations for $500,000,000 worth of buildings, which will not be used in volume, according to the present schedule, until the emergency is passed," Mr. Gray declared.

"This situation has arisen despite the fact that Congress in appropriating this money sought to aid in reducing unemployment, and in restoring prosperity.

"The cause of the delay is bureaucracy, the taking over by the Government of functions best performed in the communities where the buildings are to be built. The Government has not gone into the contracting business, but it has built up a huge architectural office.

"Huge as it is—employing some 800 draftsmen—it is not adequate to put into the works at once the volume of building for which appropriations have been made to meet existing needs. It is estimated that the Government cannot catch up until 1937. Even if this estimate is modified by one-

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half, the emergency will not be met. The public buildings program can be speeded up by allotting to architects in private practice all work which the architectural office in the Treasury Department cannot handle immediately."

In support of an appeal for the employment of private practitioners in the design and execution of the Federal public buildings program, Mr. Gray quotes President Hoover as saying two years ago:

"It is the wish and the demand of the American people that our new buildings shall comport with the dignity of the Capital of America, that they shall meet modern requirements of utility, that they shall fulfill the standards of taste, that they shall be a lasting inspiration.

"In architecture it is the spiritual impulse that counts. These buildings should express the ideals and standards of our times; they will be the measure of our skill and taste by which we will be judged by our children's children.

"Mr. Mellon has insisted that the great responsibility before us is not one which can be discharged by any one individual. It must be the product of the common mind of many men, devoted to secure for America the vast realization of the expression of our Nation.

"And I am confident that we have within the Nation the taste, skill, and artistic sense to perform our task, for our architects have already given to America the leading place in their great art."

Mr. Gray urged a return to the policy laid down by the late Franklin McVeagh, who when Secretary of the Treasury said:

"The elimination from the service of the Government of the knowledge, gifts, and inspirations of all architects except those confined within the Treasury Building, reduces our architectural dimensions to those of a single architect's office, and limits us to the architectural control of one

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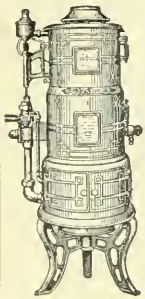

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man; whereas, such continual building as we do, such opportunities of influence upon all the buildings in the country as we have, such responsibilities to the architecture of the Nation as we cannot relieve ourselves of, demand that the Government should have at its disposal every bit of architectural ability that the Nation possesses."

Mr. Gray pointed out that the American Institute of Architects is at this time urging the administration at Washington "to change its procedure so that, in the production of all the raw materials going into these buildings, all the manufacturing of these materials, all the transportation, all the labor, craftsmanship, and administrative services may be now employed."

"Red tape and bureaucracy," Mr. Gray concluded, "must give way to action."

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THE passing of F. W. Fitzpatrick, consulting architect of Chicago, and a frequent contributor to the reading pages of THE ARCHITECT AND ENGINEER and other leading architectural magazines, comes as a shock to his many friends throughout the country. To the Editor of this magazine, Mr. Fitzpatrick's passing means the loss of a loyal friend and a man whose indominable courage and fine sense of fairness have been an inspiration. Mr. Fitzpatrick once wrote to the Editor about the distinguished Leonardo de Vinci. His pen picture of this great inventor and architect is a faithful interpretation of his own characteristics — "handsome, tall, graceful, eager, affectionate, generous, an extraordinary athlete, horseman and fencer." Mr. Fitzpatrick was all of these and like Leonardo de Vinci, he was an inventor and an architect.

Mr. Fitzpatrick visited San Francisco but once and that was as a special investigator following the great fire.

He died July 11th from injuries he had received in an automobile accident. While attempting to cross a street in Evanston, he was struck down by a car.

Born in Canada in 1864, he came to this country at an early age. He first engaged in architectural practice in Duluth, Minnesota, and later moved his office to Chicago. In the early days of steel frame construction, Mr. Fitzpatrick played an important part in developing methods of fireproofing steel. The Chicago post office building, the Chicago public library, and the Newberry library are three of the many buildings for which he was the architect.

The greater part of his professional life was spent in Washington as a government architect, in which capacity he came to know many of the important figures of the Roosevelt and McKinley administrations. During the latter part of his life, up to the time immediately preceding his death, he had been working on projected patents for steel construction in small buildings.

Despite his age, Mr. Fitzpatrick was keenly interested in athletics, and attained a local reputation as a long distance runner and tennis player. His interest in architectural affairs led him to write many interesting papers on the problems of the profession. His delineations for different architects brought him fame from one end of the globe to the other. Many of his color perspectives for architect clients won competitions and international recognition.

A rather strange coincidence was the death one week after Mr. Fitzpatrick of Will D. Shea of San Francisco, a client and great admirer of the consulting architect.

* * *

THE efforts of the American Institute of Architects to induce the United States Government to employ private architects on Federal buildings, regardless of their size, is bearing fruit. Recent appointments include:—

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Merced Post Office—Allison & Allison, Los Angeles.

And so on down the line. Many more names could be mentioned in California, Oregon and Washington.

Fine work, gentlemen.

This distribution of government architectural commissions will not only provide employment for a great many needy draftsmen at home, but will speed up the construction of these buildings from six months to a year. This will be a real relief at a time when relief is most needed.

AMONG the San Francisco newspapers, the *Daily News* has been active in urging the Government to speed up plans for Federal buildings authorized by Congress. In appreciation of its efforts, G. Frederic Ashley, architect, and a member of the Institute Committee on Public Works, wrote to the *News* as follows:

"Permit me to thank you on behalf of the National Committee on Public Works of The American Institute of Architects for your editorial of the 7th instant, in which you mention inexcusable delays in execution of the Federal building program, and state 'For well over half the projects and over half the total funds, the architectural plans have not even been completed—'.

"This condition was foreseen by the architectural profession and drawn to the attention of the Treasury Department, United States Senators and Representatives and the President soon after the announcement, in December, 1929, of the projected increase in the Federal building program.

"As you are doubtless aware, the Treasury Department has instituted and stubbornly maintained the policy of employing private architects only in connection with the largest projects. As a result of extreme political pressure, a few medium-sized projects have also been entrusted to private firms.

"The attitude of the architectural profession is that the office of the Supervising Architect of the Treasury Department should confine itself to supervision and letting contracts. By supervision we mean supervision of work in private architects' offices, as well as of construction.

"The Congress, undoubtedly at the behest of the Treasury Department, made it permissive and not mandatory for the Secretary to employ private firms. As a result, the staff of the Acting-Supervising Architects has been greatly increased; we have no exact information just how greatly. From a business point of view, this is putting the Government in direct competition with a vital element of the building industry, the architectural profession; one that has been hit financially quite as badly by the present depression as the material producers, contractors and building trades.

"Of course, there is a limit to the size to which this Bureau can be increased, and that, naturally, marks the limit of speed of production of drawings. I venture to state that, if half the money were to be spent on organizing a system of fair, non-political distribution of work to private architects and supervision of the same, that has been spent in increasing the Treasury Department's Architectural Bureau, there would be no ques-

[Concluded on Page 126]

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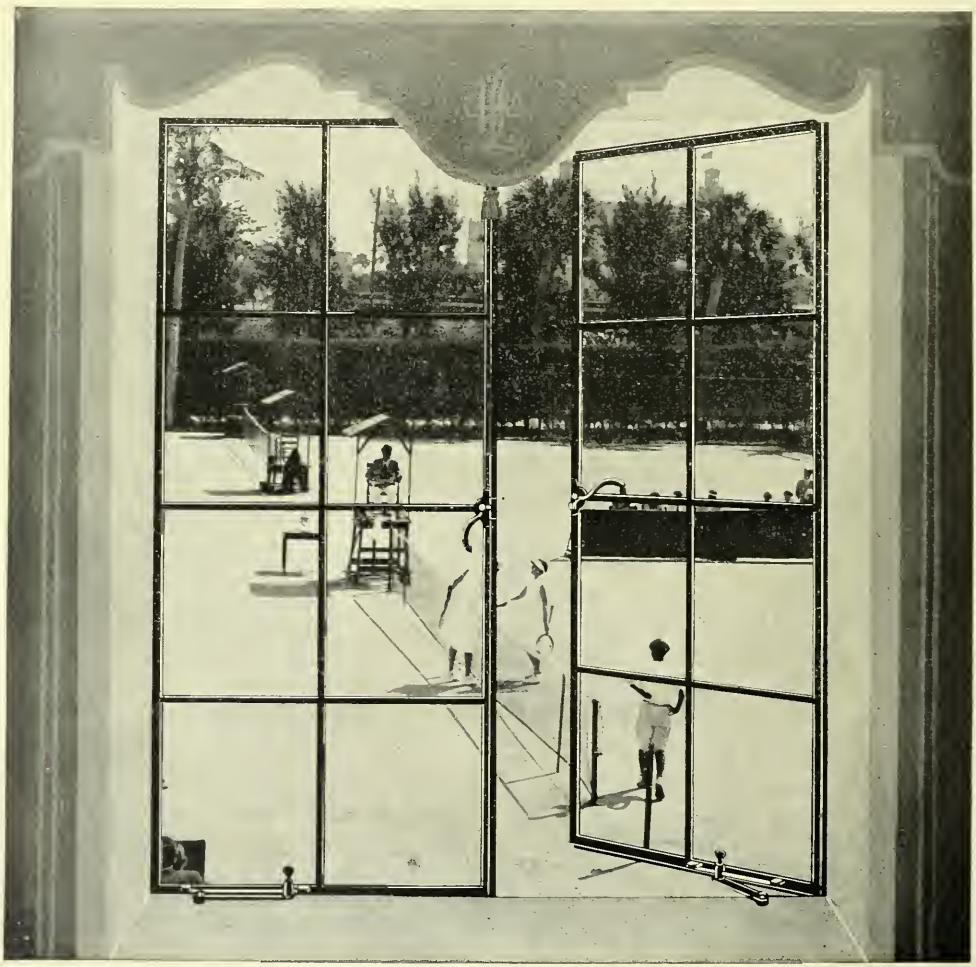

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H. ROY KELLEY, ARCHITECT

THE
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SEPTEMBER 1931
VOLUME 106
NUMBER THREE

THE DOMESTIC AND OTHER ARCHITECTURE OF H. ROY KELLEY, A. I. A.

by WINCHTON L. RISLEY

WHEN one stops to reflect, it is the quality of the simpler buildings which most affects the aspect of the country, and reveals the character of a people. Such buildings are the most numerous and are to be seen on every hand; they genuinely reflect the national taste and manner of living; they are "close to nature" in that they are often subject to economic limitations and must be built in a rational way.

It is obvious that the attractiveness of our surroundings is very decidedly affected by the moderate size houses which make up the bulk of our residence communities.

Appreciating therefore the importance of the problem of making such residence communities attractive and the important part the architect can play in this, it is a pleasure to review the work of an architect who has definitely chosen to work in this field, and within the last few years has made a reputation for himself by his results. Mr. Kelley has distinguished himself by receiving a great many honors in recognition of his contributions to residence architecture.

One of the most notable features of his work are his results in planning. Take as a fair example the Heizman house and see how logically the plan functions. This house was built at Palos Verdes on a very steep hillside overlooking the Santa Monica Bay. On entering the hall, one may pass either to the living room, dining room, patio and kitchen, or to the sleeping quarters on the second floor. The guest room, which may also be used as a study, is separated from the rest of the house, thus ensuring privacy for it. All the principal rooms, including the master bed room, command a marine view, and all have practically two exposures.

The patio, flooded with sunshine and yet protected from the prevailing winds, is ideally located for serving meals out of doors. This home received an Honorable Mention in the House Beautiful Competition for 1930.

The Holmes house built at Palos Verdes is another example of compact planning. One of the most delightful features of this home is the broad terrace which stretches across the back of the house and provides the out door room for meals and a place for study and reading.

One of the smallest homes designed by Mr. Kelley is one of a group, also built at Palos Verdes. This house, due un-

doubtedly to the unstudied simplicity of the exterior and to the well arranged plan, was given the second prize in a recent small house competition conducted under the auspices of the National Better Homes Committee appointed by President Hoover. One can easily picture the charm of a California village whose streets were lined with houses of this type.

of this size, is a feature to delight most housewives.

The residence of Mr. and Mrs. F. W. Lake at Whittier, California, is a frank, straight forward solution of the hillside problem. Advantage has been taken of the steep drop of the lot as well as the slope of the street, to place the garage and maid's room on a lower story while retain-

ENTRANCE FRONT FOR A HOUSE AND GARDEN
H. Roy Kelley, Architect

In looking over the plans of the Moir house, (built in Beverly Hills) one of the first things noticeable is the feeling of livableness. One can well conceive the pleasure of starting the day with breakfast on the loggia overlooking the rear garden. The garage, whose position with relation to the house on a sixty foot lot, is generally a problem, here seems to snuggle up against the house in a very unobtrusive fashion, and by so doing, gives to the loggia its needed privacy from neighbors. The service stairs, so seldom seen in a house

ing all the principal rooms on the one upper level. The long straight roof lines are especially commendable, as they add repose and dignity. The plan has been especially well studied when one considers the small amount of hall space for a house of this number of rooms.

The Day house built in San Marino, is in general character similar to Mr. Kelley's prize winning house for the 1929 National Better Home's Competition though somewhat more sophisticated. This style is no doubt influenced by the changing

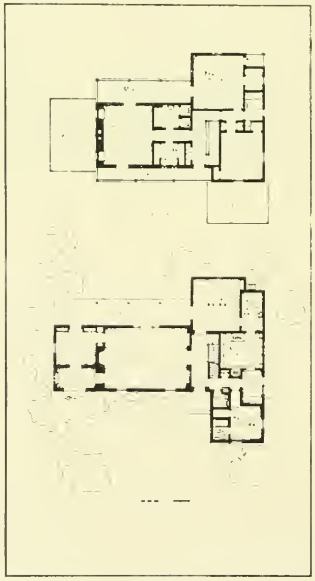
taste of our clients. No longer do they fancy themselves Spanish Dons and ask for romantic haciendas with thick walls of plaster and wood to simulate abode. In common with his other homes the plan of this house is admirably conceived and works in a practical and convenient manner. The maid's room and service porch are so designed as to give the utmost privacy to both the living quarters and the garden, and yet conveniently placed in reference to the front entrance. The exterior of the house is white washed brick, horizontal boarding painted white and a light colored stucco. The roof is of heavy split shakes of redwood left to weather a dark brown. The interior is more colonial in feeling with paneled walls in the living room while the bed rooms are finished in white painted wood work and papered walls. The hardware and lighting fixtures are of old dull brass with some pewter.

A simple and pleasingly unpretentious house is that designed for Mrs. K. W. Gibbs of Pasadena. This is the kind that makes you jamb on your brakes and coast back to have another look as you drive by. One can well think of these clients appearing at the architect's office with clippings of Cape Cod cottages to serve as an inspiration for the architect. The same well studied plan is noticed here as in the others.

PLAN FOR A HOUSE AND GARDEN
H. Roy Kelley, Architect

To this list of plans and photographs of small homes has been added those of a small Christian Science Church at Fillmore, California. It has the same simple domestic quality as found in Mr. Kelley's houses. This little edifice, which must gladden the hearts of its members with its simplicity and air of peace, was awarded the American Institute of Architects' Honor Award for meritorious ecclesiastical architecture in 1930.

SKETCH, RESIDENCE FOR CLARENCE E. DAY, PASADENA
H. Roy Kelley, Architect



PLANS, RESIDENCE FOR C. P. DAY
H. Roy Kelley, Architect

OUTLINE SPECIFICATIONS

Residence of Mr. and Mrs. Clarence P. Day
San Marino, California

Exterior—

Cement plaster, painted white; front wing brick, painted white; side wing, clapboards, white. Roof, hand split weathered shakes. Wood finish, yellow-ivory. Shutters, green. Flower pots, red. Iron work, green.

Interior—

Living room and library paneled in knotty pine. Hall and dining room, smooth stucco. Floors, oak. Bed rooms, wall papered. Baths and kitchen, painted walls, tile floors and wainscots. Colored bath fixtures.

Construction—

Wood frame and brick walls. Concrete foundation. Unit system gas furnaces. Composition lath inside. Metal lath outside.

RESIDENCE OF CLARENCE P. DAY, PASADENA, CALIFORNIA
H. Roy Kelley, Architect

SKETCH FOR SMALL HOUSE, LOS ANGELES COUNTY
H. Roy Kelley, Architect

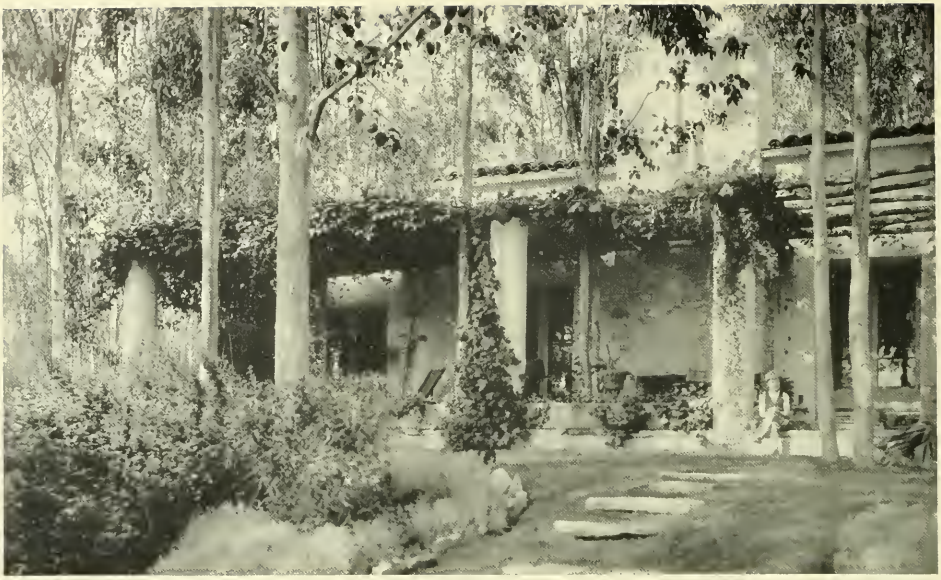
RESIDENCE OF MRS. K. W. GIBBS, PASADENA, CALIFORNIA
H. Roy Kelley, Architect

LIVING ROOM, RESIDENCE OF MRS. K. W. GIBBS, PASADENA
H. Roy Kelley, Architect

SKETCH FOR VERMONT AVENUE SHOPS, LOS ANGELES
H. Roy Kelley, Architect

THE PATIO

GARDEN VIEW



RESIDENCE OF E. E. HOLMES, PALOS VERDES ESTATES
H. Roy Kelley, Architect

RESIDENCE, E. E. HOLMES, PALOS VERDES
H. Roy Kelley, Architect

OUTLINE SPECIFICATIONS

Residence of Mr. and Mrs. E. E. Holmes
Palos Verdes Estates, California

The Problem

Principal requirements in planning of house was to keep it small and compact, and arrange plan so that living room, dining room, den and main bed room would overlook the ocean and thereby take advantage of a beautiful view. The entrance or drive side of the house is really the rear of the house. The porch off the living room, dining room and den is the principal front and gives an outlook upon the private garden with the ocean beyond.

Exterior—

Walls are stucco, warm Spanish white in tone. Roof is of Spanish tile of warm terra cotta tones. Shutters are weathered olive green. Entrance door and garage are same color as shutters. Window sash are yellow-ivory color. Porches and walks paved with flag stone of weathered russet tones. Generous use of red pots and bright colored flowers.

Interior—

All rooms are plastered with California Stucco Products Company Spanish texture of light neutral color. Principal rooms have simple beamed ceilings of wood in light weathered oak tones. The floors are of deep brown-toned oak. Stair rail is wrought iron. Kitchen and bath rooms have painted walls and linotile floors.

Construction—

House is built of wood frame. Ceilings, walls and roof are insulated. Foundation is concrete.

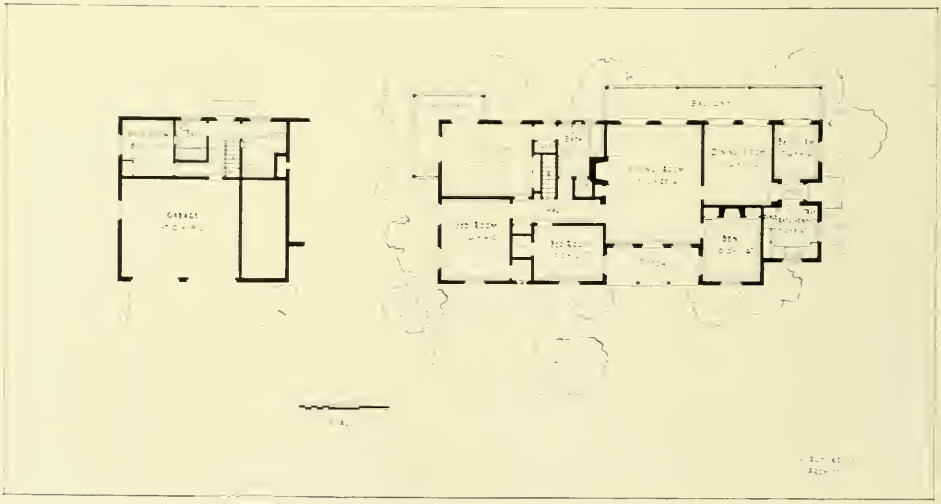
Equipped with Payne gas fired unit furnaces

RESIDENCE OF DR. W. C. S. KOEBIG, PASADENA, CALIFORNIA
H. Roy Kelley, Architect

(Other views of this house on pages 37, 39 and 41)

SKETCH, RESIDENCE FOR EDWIN HEIZMAN, PALOS VERDES ESTATES
H. Roy Kelley, Architect

RESIDENCE OF F. W. LAKE, WHITTIER, CALIFORNIA
H. Roy Kelley, Architect



PLANS, RESIDENCE OF F. W. LAKE, WHITTIER, CALIFORNIA
H. Roy Kelley, Architect

Photo by Stoughton

RESIDENCE OF F. W. LAKE, WHITTIER, CALIFORNIA

H. ROY KELLEY, ARCHITECT

OUTLINE SPECIFICATIONS

Residence of Mr. and Mrs. F. W. Lake
Whittier, California

The Problem

The house has a setting at the top of a steep hill overlooking the City of Los Angeles. The owners wished it planned so the principal rooms would have the advantage of this view, and wished sufficient porches to front upon this outlook.

Exterior—

Walls, California Stucco Products Company Spanish white finish. Roof, red Spanish tile. Shutters, soft weathered green. Wood finish, weathered natural oak. Windows, green steel sash. Porch floors, and walks, red brick. Iron work, green. Additional color is given to house by use of red flower pots and bright colored flowers.

Interior—

All principal rooms, light ivory "California Stucco." All wood finish, natural coolr oak. All rooms have simple beamed ceilings. Floors, dark-toned oak. Kitchen and bath rooms have tiled walls and floors.

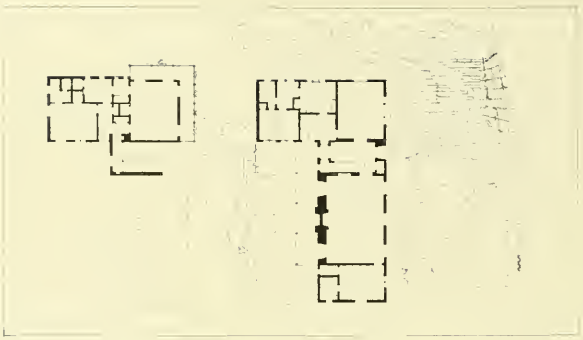
Construction—

Wood frame, tile roof, concrete foundation. Walls plastered with gunite on metal lath.

Photo by Stoughton

RESIDENCE OF EDWIN HEIZMAN, PALOS VERDES ESTATES

H. ROY KELLEY, ARCHITECT



PLANS, RESIDENCE OF EDWIN HEIZMAN
H. ROY KELLEY, ARCHITECT

OUTLINE SPECIFICATIONS

Residence of Mr. and Mrs. Edwin Heizman
Palos Verdes Estates, California

The Problem

House is on hillside overlooking ocean, of which a striking view is obtained from living room, dining room, guest room, master bed room and kitchen. The patio is well sheltered on all sides from the ocean breezes.

Exterior—

Walls, California Stucco Products Company Spanish white. Roof, deep red, and brown toned tile. Shutters, deep green. Wood finish, drift wood color. Sash, yellow. Porch floors, steps and walks, red brick. Iron work, deep green. Flower pots, red. Entrance door and garage doors, yellow.

Interior—

Principal rooms, textured plaster, ivory color. Ceilings, beamed in weathered oak. Floors, dark red tile and dark color oak. Kitchen and bath rooms, painted walls, colored fixtures, colored tile floors.

Construction—

Reinforced concrete and wood framing. Roof, tile. Heating, unit system gas furnaces. Circulating hot water system.

RESIDENCE OF EDWIN HEIZMAN, PALOS VERDES ESTATES
H. ROY KELLEY, ARCHITECT

RESIDENCE OF EDWIN HEIZMAN, PALOS VERDES ESTATES
H. ROY KELLEY, ARCHITECT

Photo by Stoughton

HOUSE OF CLARENCE P. DAY, PASADENA, CALIFORNIA

H. ROY KELLEY, ARCHITECT

Equipped with Payne gas fired unit furnaces

RESIDENCE FOR MR. AND MRS. WALLACE MOIR, BEVERLY HILLS

H. ROY KELLEY, ARCHITECT

SKETCH, RESIDENCE FOR CYRIL CHAPPELLET, BEL AIR, CALIFORNIA

H. ROY KELLEY, ARCHITECT

Equipped with Payne gas fired unit furnaces

SKETCH, RESIDENCE FOR F. W. PHILLIPS, WESTWOOD, CALIFORNIA

H. ROY KELLEY, ARCHITECT

SKETCH, RESIDENCE FOR RALPH W. TRUEBLOOD, BRENTWOOD PARK

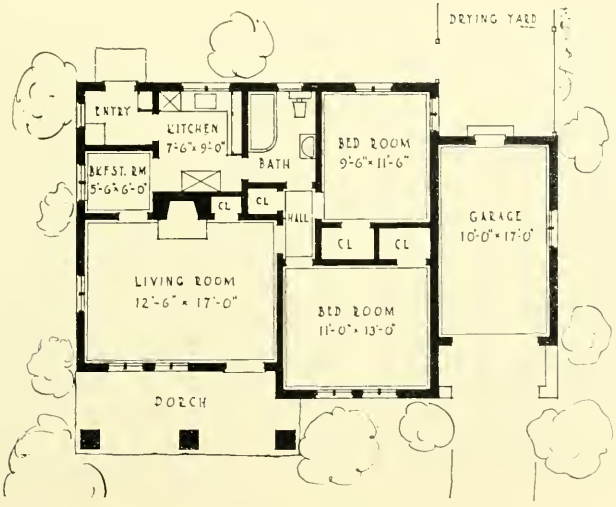
H. ROY KELLEY, ARCHITECT

PRELIMINARY SKETCH FOR A RESIDENCE

H. ROY KELLEY, ARCHITECT

Honor Award

SMALL HOUSE, PALOS VERDES ESTATES, CALIFORNIA
H. Roy Kelley, Architect



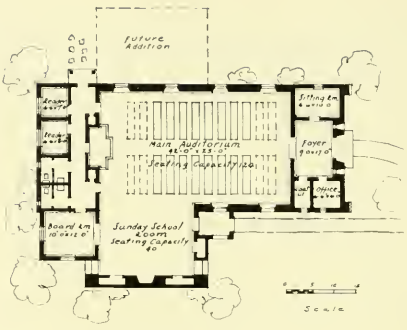
PLAN, SMALL HOUSE, PALOS VERDES ESTATES
H. Roy Kelley, Architect

SKETCH FOR ARTHUR R. MAAS LABORATORIES, LOS ANGELES
H. ROY KELLEY, ARCHITECT

Photo by George D. Haight

FIRST CHURCH OF CHRIST, SCIENTIST, FILLMORE, CALIFORNIA
H. Roy Kelley, Architect

AUDITORIUM, FIRST CHURCH OF CHRIST SCIENTIST, FILLMORE
H. Roy Kelley, Architect



FLOOR PLAN

CHURCH BUILDING FOR
FIRST CHURCH CHRIST SCIENTIST
FILLMORE CALIFORNIA

OUTLINE SPECIFICATIONS

First Church of Christ Scientist
Fillmore, California

Construction—

Concrete walls and wood roof framing. Steel sash. Concrete floors. Gas-steam radiators.

Exterior—

Textured Stucco, weathered warm gray. Roof, hand split shakes, graduated in color from dark green at eaves to light moss-green at ridge. Windows, steel sash, green in color with antique glass. Wood finish and doors, dark oak. Steps and walks, red brick. Hardware, wrought iron. Electric fixtures, wrought iron.

Interior—

Walls, warm ivory-toned textured plaster. Ceiling, trusses and pews, dark oak. Floors, acid-stained cement in deep brown tones. Draperies and carpets, dark rich blue. Electric fixtures, wrought iron with antique glass shades. Doors and wood finish, dark oak.

THE PURSUIT OF THE ELUSIVE CLIENT

by ROYAL B. WILLS, Architect, in Pencil Points

THE young architect starting out to build up a practice of his own encounters no small number of obstacles, chief among which is the compilation of a list of prospective clients. The number of prospects that a young architect gets depends on the number of sources from which he assiduously collects names. In short, the number of names collected depends on the amount of well-planned, hard work expended. No doubt all of us would like to have a prospect list handed to us, but it must be literally pulled out by the roots. Architects of a generation ago sat at their desks and waited for clients to come in. This method would not be successful today. To get the work, the architect must reach the prospect before he has been sold a house or other building built without the benefit of architectural service. This is, perhaps, rank materialism, but "you cannot do good work unless you get some work to do." Therefore, the first thing for an architect to do, who is starting out for himself, is to build up his list of prospects. Arduous as the task may seem, the modern architect has access to several means of compiling such a list.

Let us assume that the architect has a well grounded education, is endowed with a certain amount of ability, originality, and ambition, together with a facility for sketching and a fair knowledge of literary composition. Thus prepared, he may embark upon his campaign.

Architecture must be sold just as are shoes and suspension bridges, and prospects must be obtained by much the same procedure as is followed in other businesses. Let us consider, in particular, the young architect who is entering the field of residential work, since the greater number of architects are first attracted to houses.

To make a start, then, on collecting names of prospects, the young practitioner must formally introduce himself to the public which he expects to serve. He must first issue announcements that he is establishing a practice of his own. Such an announcement should take the form of a personal card nicely engraved and should be sent to all of his friends and to those who are likely to become business acquaintances.

After thus making the announcement, a study of the building pages of the local newspapers should be made, so that the architect may become thoroughly acquainted with the various aspects of the business. The next step is for him to prepare a few sketches in a medium which will be conspicuous on a printed page. Black and white pen or brush drawing is the best medium. Then he should secure an introduction to the building editor of the paper read by the most desirable class of people in the town or city, and present the sketch to him in person. The building editors are glad to publish good sketches, for they may help to attract quantities of advertisements, and advertising is the life of the newspapers. These sketches will take time and effort, but a good sketch,

accompanied by a short description and statement that the editor will gladly answer questions concerning the plans, will give extensive publicity to the architect. In a paper having a circulation of 100,000 he should receive ten to fifty inquiries from one edition of the paper. Here is already an excellent list of prospects among whom there should be a future client.

Again, through the newspaper, is offered another opportunity to secure names. The architect might persuade the paper to offer, free of charge, a pamphlet which he could write describing the services rendered by architects. Such a pamphlet might incur a slight expense, but the architect would be rewarded by numerous requests for the pamphlet which should contain valuable information for the layman. It is surprising to record the number of people who write for such material and at the same time give information as to the type of structure they expect to build.

The general publicity which the architect has now received from newspapers enables him to cultivate other sources for his prospect list. Having already gained some recognition, it would be well for him to arrange a series of exhibitions. These exhibitions may be composed of published or unpublished sketches with accompanying plans. The work displayed should, by all means, be chosen from examples of the best efforts of the architect. These exhibitions must be held where they will be seen to the best advantage and by the largest number of people. Some of the best locations for such exhibits are architects' exhibit windows, newspaper show windows, high-grade department store windows, and windows of publishers of building reports. Art clubs, libraries, and so forth, are purposely omitted as undesirable places for exhibitions of this sort, because they do not reach the prospect. Five hundred men of means will pass a show window in a good location to one who would visit an exhibit in an art club. A good exhibit in one window for one week should bring in between five and ten prospects. In a city of 500,000 the same exhibit may be used three or four times in different locations, but, naturally, in subsequent showings the returns diminish.

With the foregoing three sources for prospects, another one immediately offers itself. By this time the friends of the architect begin to appreciate his talent and to realize that he is becoming known to the public and is succeeding. They in turn offer themselves as prospects and recommend him favorably. During the campaign the business builder has, of course, kept a careful record of all prospects mentioned by friends, as well as those reached through any other channels.

What with preparing sketches and short articles for the newspapers and answering correspondence in regard to the pamphlets, one ought to be kept fairly busy. However, do not overlook any possible means of securing publicity. The following suggestions offer additional sources for building up a prospect list.

Among the most important items to be considered are architectural competitions. Although they take time, much thought, and some expense, the resulting publicity is worth the effort expended, if a prize or mention is won. Prospective builders are interested in a house which has won a prize. That house must have particular merit and, besides, it proves that the architect has an especial gift for designing correct and attractive houses. Interested people will go to see a prize house and will write to the architect for further details and suggestions concerning the type of house which they expect to build. Often, too, just out of curiosity they will call upon the architect himself. Among the names of these interested people there will undoubtedly be one or two future clients.

Magazines will publish the prize-winning designs, as well as some of those which did not meet the full requirements of the judges. And so, even if the first competitive attempt does not win a prize, the design may be published, thereby winning more publicity; or else it may be reserved for exhibition purposes.

The erection of an exhibition house is another good way to secure publicity. It is necessary, however, that the architect be

alert and on the job if he wants to get the best results. He is essentially the center of attraction, for the house becomes an expression of his work. Visitors at the house are interested in the merits of the house and in the designer's ability to adapt a house to the needs and wishes of the general public.

The person in charge of the exhibition house should require each visitor to sign his name and address in a registration book. This will serve as an exact record of all those interested in the house and of those who contemplate building. It is well for the architect to spend as much time as possible at the exhibition house, for personal contacts are of more value than contacts by letter. In addition to keeping the registration book, the architect may check many a name by noting the automobile registration number of a man whom he has perhaps met personally in the house.

Still another source for leads is to be found in building material salesmen whose job it is to follow up every prospective building for the installation of their product. These salesmen constantly hear of new work and often can pass on to the friendly architect the names of prospective home builders.

Notices of land sales listed on the real estate pages of newspapers are also valuable. Every man who buys land is a good prospect, for sooner or later he will build on that land.

Building reports, too, are a fair source, although they are more often better for large commercial work rather than for residences.

Even owners of old property are good prospects for alteration jobs, and should not be overlooked. All owners of out-of-date property must eventually bring it up to date in order to increase its value. If the architect can secure a prospect of this kind, it will give him a good opportunity to show his ingenuity and originality. A successful alteration will serve as good publicity and may even more emphatically demonstrate the architect's skill than new work.

Leads from real estate brokers are also helpful. An architect can often help a broker make a sale by submitting a sketch of a proposed house or by making suggestions of various kinds. The name of the prospective builder is thereby made available as a prospect for architectural services.

After obtaining and filing a list from the above sources a letter and possibly a follow-up letter should be written to each prospect. This letter might outline the architect's qualifications and request an interview. Also the pamphlet on architects' services may be enclosed. Replies are generally received from 25% to 50% of the prospects, and those who do not reply may be followed up with a telephone call.

While the foregoing stresses mainly the problem of the young architect starting in with residential construction, the same methods as a whole may be used by those embarking in other fields.

The ideas outlined in this article will work. They have worked in many cases; and any young architect who has sufficient perseverance to spend his spare time pursuing them will have a reasonable measure of success.

FOUNTAIN, LINDBERGH OPEN AIR THEATER, MEXICO CITY
PHOTO BY EMERSON KNIGHT

FOUNTAINS OF OLD MEXICO

by EMERSON KNIGHT, Landscape Architect

FOUNTAINS have always been expressive of the people, symbols of the vital centers of communal life. Perhaps no other necessary and useful attribute of man evidences such fruitfulness, born of felicity of design, wherein functional form has received the added grace of seemly ornament. We find limitless variety and excellence in fountains the world over, which impart beauty, joy and refreshment, are conducive to health, and ever manifest perfect balance between spirited action and repose. Fountains and wells have been built through long cycles of centuries for the convenience of man, animals and birds. In legend and history man has been intimately associated with the sources and supply of domestic waters. The imagination can conjure no nobler picture of primitive life, than that of women with earthern or copper jars poised on their heads and shoulders, sauntering toward the fountain, filling their urns, resting along the coping, or returning with steps of measured grace, slow rhythmic movement and superb carriage of their heads.

From the humblest wall outlet to the noblest creations of architecture, sculpture and planting combined, fountains include widely varied types, with waters rising and falling, swift moving or quiescent, their beauty enhanced by an everchanging background of sky. Wherever man has planned wisely and built in exaltation, fountains have reflected with accuracy the vitality and refinement of his conceptions. They record faithfully his free and happy moods.

Mexico has built countless fountains of Indian, Colonial and modern types, convincing in design and extremely interesting in detail. The plazas of her numerous cities and towns, the cloisters of her churches, and the patios of houses and hotels, are nearly all enriched and animated with fountains. Unobtrusive ones built into massive stone walls or under venerable trees, generously distributed throughout the towns, serve practically by furnishing water for neighborhood use, yet all of these are individual in character and highly picturesque.

When we consider the meaning of fountains, it is an inspiring mental flight of easy transition to their sources. In Mexico are isolated, perpetually snow-clad peaks of great height and noble form which stand sculptured powerfully, their silhouettes keen chiseled against a blue sky of extreme clarity, revealing dazzling beauty on sun-strong days. Among these mountains are some of the loftiest monarchs of the North American Continent — El Pico de Oriz-

GUANAJUATO

Editor's Note—This is the third and last of a trilogy on Mexico by Mr. Knight who spent several months in the Republic gathering valuable data and personally photographing interesting subjects.

POOL AND FOUNTAIN, PAROCHIAL CHURCH OF TLALMANALCO
PHOTO BY EMERSON KNIGHT

aba, El Popocatapetl, El Ixtaccihuatl, Nevada de Colima, and the Nevada de Toluca. Their vast snow mantles, melting slowly, feed upland lakes and streams. Finally through rivers and waterfalls and under-ground channels, the villages, towns and cities of the Republic receive bountifully their gifts of pure snow water.

In contrast our thought is uplifted to the clouds of infinitely varied formations, which are marshalled in such grandeur over the coasts and barrancas, the great plateaus and mountains of Mexico. The traveller, once awakened to their fanciful charm and vigorous movement, will forever afterward be haunted by the beauty of these clouds, the source of copious and torrential rains, together with the clean fresh atmospheric aftermath, the newly washed fields, houses and streets—a replenishment of streams and the boon of water for all living things.

Let us review some of the significant types of fountains in Old Mexico, beginning with examples about its Capital, the White City, elevated 7350 feet above the sea, in the heart of the great Valley of Mexico.

The one most flavored with Spanish tradition, no doubt, is that dedicated to Don Quixote in the Chapultepec Gardens, in the depths of the old forest of ahuehuete trees below the old Castle. A spirited small fountain with its diminutive jet, whose waters fall first into a circular upper basin and then overflow into a lower octagonal one, is executed in polychrome tile, surrounded by a tile terrace. Around the limits of this are grouped four large, comfortable benches, and two pedestals crowned by miniature figures of Don Quixote and Sancho Panza. The entire composition is a fantasy in glazed tile, depicting graphically the story of Don Quixote in the series of small square tiles set in the vertical backs of the benches. The color and liveliness of the whole, tempers the sombre, ancient mood of the great over-arching trees, offering playfulness and gaiety in contrast to the pathos of old age.

The most imposing monument of the Spanish Colonial type is the great stone wall fountain and flanking benches at the entrance to Chapultepec Park. This is executed in perfect proportion on a grand scale and suggests aristocracy, forming a gateway to the grounds of Chapultepec Castle, the home of the Presidents of the Republic, and the site of the earlier sumptuous palaces of the mighty Montezumas, Emporers of the Aztec race.

A modern fountain of exceptional interest employs the motif of the organ cactus developed in a conventional design, and emphasizes a round point fronting the great stadium of Mexico City. This upspringing stone shaft idealizes a close clustering of the spires of the cactus into a single, forceful mass of quiet simplicity. Beautiful is the effect of the control of the waters, which, after silently emerging and rolling over the crest, glide down over the rounded surfaces and fluted channels in a flow covering the entire column, as smooth as glass. This fountain, expressing rhythmic vitality, is probably from forty to fifty feet high.

Indian tradition seems to have inspired another modern fountain of vivid conception which comprises the large sculptural ornament fronting the Lindbergh Open-air Theatre in the midst of a newer residential section of the Capital. It is a personification of the Indian woman as the Mother of Waters. The collosal athletic figure is a master work of powerful modelling, and has apparently achieved a spontaneous expression in concrete. It symbolizes the spirit of an unconquerable race—and also enlightment, that will preserve the sources and delivery of water uncontaminated, and distribute it bountifully to all the people. This work is a convincing contribution to modern art.

In Guanajuato, in a sequestered square, the writer discovered a charming example of a circular pool surmounted by a fountain with a lily flower rising from an octagonal base. The graceful lines of the fountain proper, the broad, plain horizontal coping and the circular steps pyramiding to the drum of the pool, all combine to give the feeling of breadth, blitheness, unity and peace.

In the steep and narrow old thoroughfares of Guanajuato small decorative types of wall fountains are frequently encountered. These abound in poor neighborhoods whose individual homes are not water piped. Boys and girls carrying bottles and jars are often dispatched to these simple fountains comprising a flat stone stoop upon which to rest the vessels, and shell ornament. Because the houses of Mexico are characterized by ample wall surfaces unbroken by door or window openings, the placement of these fountains at happy intervals, relieves any possible monotony in the walls and adds a touch of human interest.

A FOUNTAIN IN TAXCO, GUERRERO
Photo by Rafael Garcia

A fountain to Neptune, in the Spanish Colonial style ornaments the corner of a small garden sheltered on two sides by the old Church of Santa Clara in Queretaro. The well designed pool wall is fronted by a broad stone step. The writer had a curious experience when photographing this fountain on a fine Sunday morning. A group of poor Mexicans lolled along the step, enjoying cool shade and colored news sheets. A lone Indian bent with age and steeped in reverie, sat quietly at one side. Approaching slowly I leisurely opened my camera on the corner diagonally opposite. My actions were quickly observed by the group which seemed to realize instinctively that I wished to gain an unbroken picture of the fountain proper and its setting. Noiselessly those with papers arose and moved out of the way; only the single crouching figure remained, conscious that he offered no discordant note, and indeed, in his musing pose, he gave scale to the composition and added tranquility through his own picturesque personality.

Among many attractive fountains of old Taxco in Guerrero, are two neighborhood ones of especial interest, masterfully photographed by Rafael Garcia. One is situated in the angular space between two small houses and has a low, broad, circular vase shape. The other, with vertical walls

and curvilinear composition, gains infinitely in charm, due to the good old trees which shade it, the rude texture of the adjacent cobblestone pavement and the excellent design and grouping of the hillside architecture which forms its background.

Unfailing in merit and wide in variety of conception, is the formal type of fountain usually centering the cloisters of churches and convents, and the patio gardens of residences. Very often there is an accompaniment of bright green plant life, gay colored flowers, song birds and perhaps the sedate presence of tall, slender-legged and white winged water fowl. Flooding the whole is the warm, hearty sun of Mexico, and above, a great square segment of vivid blue sky. One example is the fountain in the cloister garden of the Parochial Church of Tlalmanalco, and another, that of the patio in the House of Bravo, in Chilpancingo.

The architects of Mexico know the value of focalizing vistas upon objects of worth and beauty, including fountains which are frequently situated in such axial positions, especially in the larger towns. A fountain of massive simplicity centers a vista through a plaza in Guadalajara, flanked by fine shade trees. It is amazing to think of the great number of well designed fountains and basins in the cities of Mexico—as compared with the few good examples to be found in most of our population centers of the United States.

A FOUNTAIN IN TAXCO, GUERRERO
Photo by Rafael Garcia

From our wanderings through the towns of less densely populated regions of Mexico, let us return to the Capital and its stimulating beauty. The writer had the intense pleasure of thus returning many times while serving the Federal Highway Commission of Mexico. Each experience was a new, illuminating and stirring adventure, no matter whether the entry was made by automobile or train, by day or night, in sunshine or in rain—for Mexico City with its superb site and plan is one of the most beautiful and magnetic of world capitals.

FOUNTAIN IN ROUND-POINT, THE ALAMEDA, MEXICO CITY
Photo by Emerson Knight

FOUNTAIN IN PATIO, HOUSE OF BRAVO, GUERRERO
Photo by Emerson Knight

FOUNTAIN, FRONTING STADIUM OF MEXICO CITY
Photo by Emerson Knight

The spacious Alamada, comprising an area equivalent to eight blocks, in the very heart of the city, is luxuriously planted and includes eight or more large fountains in round-points adorned with great curving benches, comprising focal centers, all shaded by superb speciments of tall old ash trees.

In the Chapultepec Gardens there is the famous Rana or Frog Fountain with eight big bronze sitting frogs, placed at equal intervals around the broad coping of its large circular pool. These frogs eject fine arching streams of water toward the center. The low drum wall enclosing the pool is ornamented on the exterior with polychrome tile.

In a very old part of the city, Tacuba, the traveller will pause at the relic of an old ahuehuete tree, the one under which Cortez wept when driven out of the Aztec Capital in terrible defeat on that fateful night remembered as the Noche Triste or Sorrowful Night. Doubtless, even then, over four centuries ago, it was a mature tree of great size, whereas now there remains only a bushy growth above the mammoth stump. But what is left of the tree thrives and it is natural to sympathize there with the sad mood of "stout Cortez" when so beset by reverses. In turning, however, from this tree into the small verdant square, one is surprised, perhaps less than forty yards distant, by a charming, playful bit of bronze in fountain form. It is a rana or frog, gaily playing upon a mandolin. It was erected from savings of boleros, shoe polishing boys of Mexico. So carefree and cheerful is the mood imparted, so utterly at variance with the sad memorial to Cortez—that we experience the vigor of change—a delicate balance between pathos and joy, which enriches and mellows our philosophy.

It seems fitting, in conclusion, to allude to a different yet related kind of fountain of high significance in Mexico—the fountain of its life. No sensitive traveller can

fail to be moved by the alertness and vitality of the young Republic of Mexico and its people, fast undergoing evolution toward the freedom of enlightenment. Besides the pure Mexicans and the fusion of Latin and Mexican races, they have the spirited influence of settlers from the United States and Canada, and a very substantial citizenship of English, French and German origin. Our thought returns to the pure Mexicans, who, in the face of extreme poverty and ignorance, are rising gloriously. Because their climate permits them to live much in the open, they seem to express more of the spontaneous joy of living than we do in our densely crowded cities where canyoned thoroughfares are darkened by gigantic building masses. There is no doubt but that sun and song, simple sincerity and wholesome sentiment color the lives of their humble poor, while those in better circumstances are highly cultivated and partake of the amenities of life in a measure almost equal to our own, perhaps even more, for they know better than we—how to gracefully unbend so that leisure becomes a part of the art of living.

This, therefore, is our opportunity; to become more fully and sympathetically acquainted with our capable, fascinating neighbors on the south who are characterized by a remarkable balance of dynamic action and relaxed repose; to appreciate their high purpose, resourcefulness and worth; to extend our hand of friendship to them and rejoice both in the beauty of the fountain of their youth and the aspiring fountain of their life.

FOUNTAIN TO NEPTUNE IN GARDEN OF CHURCH OF SANTA CLARA, QUERETARO

Photograph by Emerson Knight

SOME THOUGHTS ON THE PLANNING OF APARTMENT HOTELS

by N. RONNEBERG

DURING the past few years a type of building has been developed in our larger cities with the view of meeting the requirements of modern living conditions. This type of building has been rapidly coming into its own and has become known as the apartment hotel.

The complexity of living conditions in our larger cities demands that the business man devote practically all of his time to his business and that he be relieved of as many other duties as possible. Even his recreation time is becoming more and more a matter of planning with the view of doing business. It is said that more business deals really are consummated on the golf links and in the various clubs than in the office; consequently, one's home must be so arranged as to demand the least possible amount of time and labor for household duties.

Not so many years ago it was considered ideal to have a home in a suburb, which required an hour or an hour and a quarter in a crowded street car or elevated train to negotiate the trip to and from the office.

The modern apartment hotel usually is built close to the business district of the city, so that a short ride will bring the business man to his office. These buildings usually are six to twenty stories in height, so as to secure plenty of light and air, a minimum of noise, and a good view of the city. They are, as a rule, located facing a park, lake or boulevard and close to important transportation facilities.

The building itself is built with a very attractive and artistic interior, planned to furnish all modern conveniences and comforts with the least amount of work on the part of the tenant.

The first floor contains a spacious, and well-furnished lobby, where one can obtain such things as newspapers, cigars, etc., and where guests may be received and entertained in the event that it is not convenient to bring them to the apartment.

The apartments in this type of building are greatly condensed. They must be so, if they are to be rented at a reasonable price, on account of the high cost of the building site. An apartment generally consists of a large living room, equipped with a bed that is concealed in a closet when not in use, one or two bedrooms, and a combination kitchenette and dining room; or, it may consist of one large room, with a concealed bed and a Pullmanette kitchen.

In this type of apartment one has all the conveniences of larger flats. Usually they are furnished complete and rented with maid service. The kitchenettes are arranged so that all of the work in connection with cooking, dishwashing, etc., may be done without moving more than a step or two. Mechanical refrigeration always is included.

In the daytime the living room has a cozy appearance, and there is no indication that at night it will serve as a bedroom, or in the morning and evening as a breakfast and dining room respectively.

Each apartment is equipped with a telephone, and many are now being equipped with centralized radio systems; the receiving sets, from three to five in number, being installed in the office or some other conveniently located point in the building. The reproducer, or loud speaker, in each apartment is connected to these receivers

through a switch with volume control in the apartment, so that the tenant may have his selection of any of the stations tuned in at the time.

As a rule, a ventilating system is connected with registers in the kitchenettes, with an exhaust into the open air. This draws off the fumes and odors from cooking and also furnishes additional ventilation for the apartment.

Each building has an incinerator, which burns all the garbage, which is wrapped in paper and disposed of through an opening in the wall, located in the hallway. Through this opening the garbage is dropped directly into the incinerator.

Provision generally is made for taking care of packages, pressed clothing, etc., which may be delivered in the tenant's absence. Sometimes a small compartment in the wall is used. This has two doors, one on the corridor side and one in the apartment, and the outside door is equipped with a key lock, keys for which are kept at the office, or with an automatic lock, which can be unlocked only from the inside after the door has been shut. Another type, which may be used, is built into the apartment entrance door. This serves two purposes, as it is arranged to serve as a ventilator as well as a package receiver. This type is known as the "Servidor" and occupies all of the space ordinarily taken up by the panel in the door. These are being used extensively in hotels, as a suit of clothes may be hung in one of them without folding it. This receiver has a key lock.

Included in the furnishings is a most convenient type of table, which can be folded so as to occupy only a small space, or may be opened up and made use of as a dining table.

The bathroom is, perhaps, the most expensive and attractive part of the apartment. The floors and walls are of colored tile. The porcelain enameled bath tub is furnished with a colored shower curtain which matches the walls. Metal cases with Venetian mirror fronts are set in the wall above the lavatory to take care of all medicines, toilet articles, etc.

These modern, up-to-date apartments, are not, perhaps, the ideal thing for a large family, but they seem ideal as a home for newly married couples, or those without children. We find an increasing number of families, where both the husband and wife work, both leaving and returning home at about the same time. Where this is the case, house work is reduced to the minimum through this type of apartment. Frequently a cafe or dining room is operated in the building so that it is not even necessary to prepare the evening meal when they come home late or tired out.

The building generally is built of reinforced concrete and brick, with terra cotta or stone trim. Every effort is made to produce an attractive and artistic exterior, making the greatest possible use of the light and air afforded. Colored terra cotta frequently is used to make the exterior more attractive.

The latest innovation is to provide adequate flood lighting system, to illuminate the building at night. Properly planned and located, these buildings have rapidly filled up and by their popularity have proven to be a financial success and a safe investment for loan companies.

In all cities, except Chicago, the first floor and basement are devoted to garage space, and this also may be allowed in Chicago under the new ordinance. The tenant then has his car in the same building, so that he need not go out of the building to get his car, or, when he returns he can drive right into the building, leave his car, and take the elevator directly to his apartment.

In recent years a plan has been developed whereby the tenant, instead of renting an apartment in some of these buildings, may purchase it. Sometimes the whole building is built with the view of selling all of the apartments, this type being known as 100 per cent cooperative apartment buildings. They are also planned with the view of selling a certain percentage of the apartments and renting the balance, a type that usually are referred to as a partial cooperative buildings.

MURAL IN DINING SALON OF DOLLAR LINER "PRESIDENT HOOVER" DEPICTING THE FIVE CONTINENTS

BY FRANK J. BERGMAN

BUILDING FOR THE UNIQUE, SAN FRANCISCO
G. ALBERT LANSBURGH, ARCHITECT

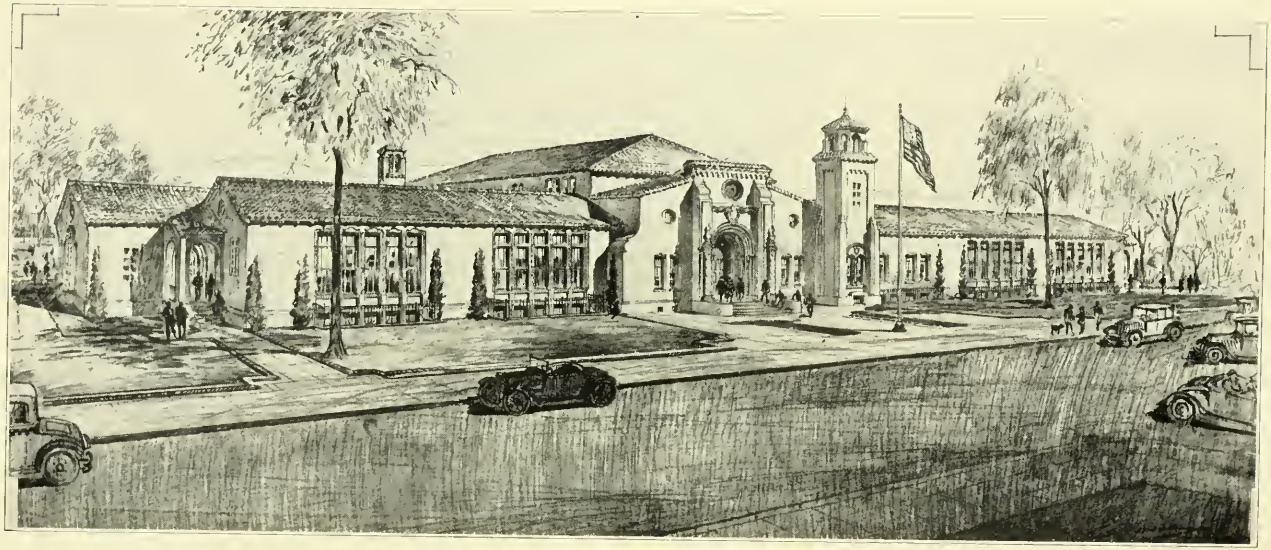
NIGHT VIEW OF SHOW WINDOWS, UNIQUE SHOP, SAN FRANCISCO
G. Albert Lansburgh, Architect

COMMERCIAL BUILDING DESIGN REFLECTS MODERN TREND

MODERNISM, adopted with a degree of restraint, characterizes the new Imperial Realty Building recently completed in San Francisco and occupied by The Unique. The architect, G. Albert Lansburgh, has judiciously combined modern materials to effect a pleasing composition that reflects the day's trend in architecture and interior decoration. As with most modern buildings the color scheme, both outside and in, is an important factor. In using a soft yellow tone for the mass and grey and green for the decorative motif, a pleasing effect is obtained. The modernistic style of the exterior is accentuated by a series of aluminum spandrels, from an original pattern designed by the architect, and cast by the Western Aluminum Foundries, Inc.

The windows, both for display and light, are cleverly designed and uniquely lighted for the effective display of merchandise. An inlaid terrazzo entrance in green, tan and terra cotta, with doors of art glass and aluminum, still further accentuates the modern trend.

The building, of light steel frame and concrete walls, was erected by Barrett & Hilp, builders, of San Francisco.



UNION HIGH SCHOOL BUILDING, ST. HELENA, CALIFORNIA
WOLFE & HIGGINS, ARCHITECTS

ENGINEERING

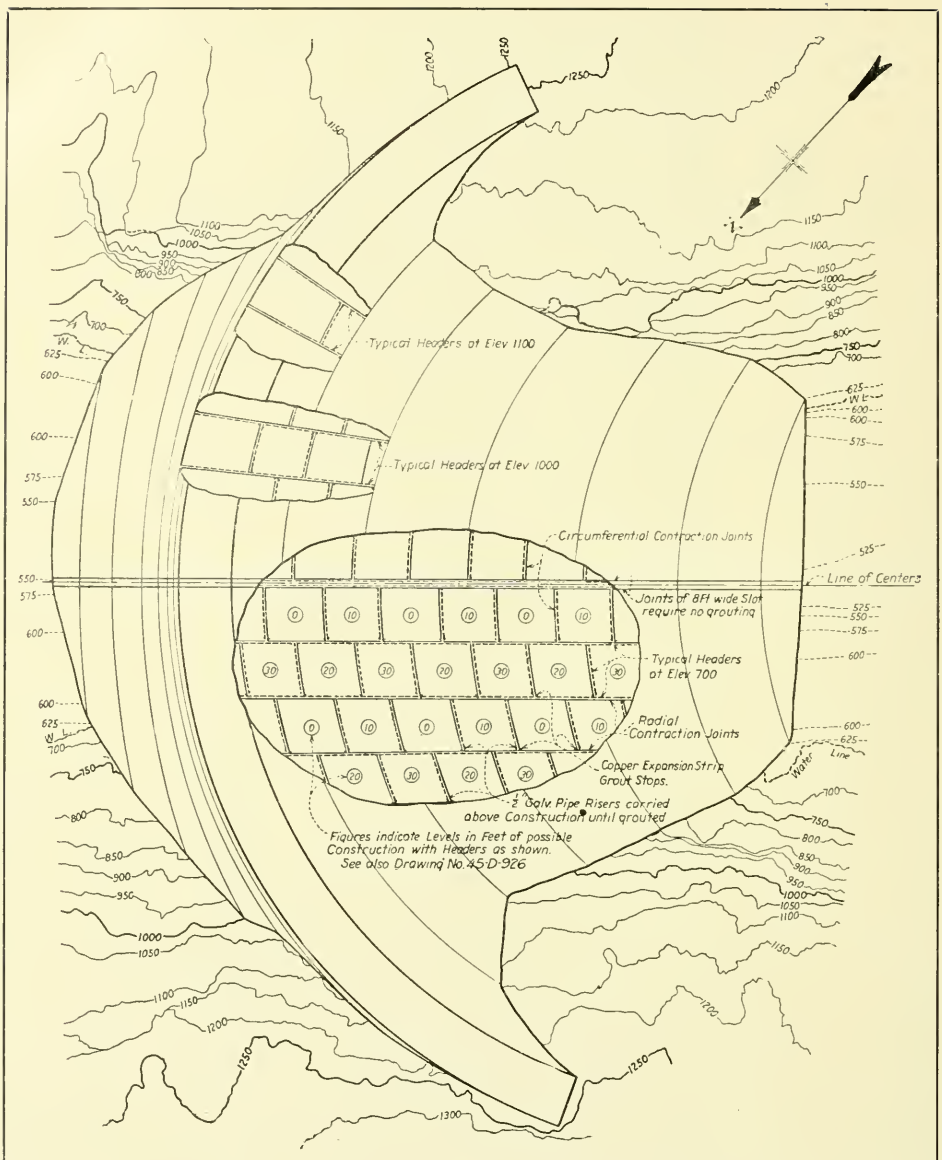
and

CONSTRUCTION

IN THE AUGUST ISSUE OF CIVIL ENGINEERING, DR. ELWOOD MEAD, CHIEF OF THE U. S RECLAMATION BUREAU, REFUTES THE INFERENCE OF M. H. GERRY, JR., CONSULTING ENGINEER OF SAN FRANCISCO, THAT THE HOOVER DAM IS AKIN TO THE ILL FATED ST. FRANCIS DAM IN DESIGN AND CONSTRUCTION. ANYONE WHO QUESTIONS THE PROBABILITY OF LOAD BEING TRANSFERRED TO THE ABUTMENTS BY ARCH ACTION TO A STRUCTURE LIKE HOOVER DAM, SAYS DR. MEAD, IS GROSSLY IGNORANT OF THE IMPORTANT DEVELOPMENTS WHICH HAVE BEEN MADE IN ARCH DAM DESIGN DURING THE LAST TEN YEARS. HOOVER DAM, SAYS DR. MEAD, IS AS SAFE AS A GRAVITY DAM. IT IS DESTINED TO STAND AS LONG AS BLACK CANYON ITSELF.

Featuring

Elwood Mead's Reply to Hoover Dam Critics


Typical Headers at Elev 1100
Typical Headers at Elev 1000
Circumferential Contraction Joints
Line of Centers
Joints of 8Ft wide Slot require no grouting
Typical Headers at Elev 700
Radial Contraction Joints
Copper Expansion Strip Grout Stops.
2 Galv Pipe Risers carried above Construction until grouted
Figures indicate Levels in Feet of possible Construction with Headers as shown. See also Drawing No. 45-D-926
Water Line

Plan of Hoover dam, illustrating the grouting headers. Drawing shows arch design and the massive character of the structure which Commissioner of Reclamation Mead asserts will make it safe as a gravity dam without arch action. The dam structure will consist of vertical columns 50 feet square, staggered as shown in the drawing. All the joints will be grouted, pipes being set for that purpose as the concrete is placed.

ENGINEERS SAY HOOVER DAM WILL STAY PUT

A Reply to Mr. Gerry's Criticism in The Architect and Engineer

by ELLWOOD MEAD

THERE never has been a dam more accurately, more carefully, and more conservatively designed than Hoover dam. It contains ample factors of safety against failure by sliding, against failure by overturning, and against failure by crushing. Hoover dam is safe as a gravity dam. It is safe as an arch dam. It is doubly safe as a combined arch-gravity dam. It is safe against overtopping, against earthquake shocks, and against any combination of loads. The probability of the occurrence of uplift pressure at the base of the dam and the possibility of the occurrence of such pressure in the interior of the great mass of concrete which forms the dam have been properly considered. There is no possibility whatsoever, that the St. Francis dam disaster will be repeated on an exaggerated scale on the Colorado river below the Hoover dam site.

Nothing could be more misleading than the comparison of the St. Francis and Hoover dams and the drawing of conclusions therefrom. The St. Francis dam was 16 ft. thick at the top, 176 ft. thick at the base of the maximum section, 205 ft. high at the location of the maximum section, and approximately 700 ft. at the crest. The Hoover dam will be 45 ft. thick at the top, 650 ft. thick at the base of the maximum section, 727 ft. high at the location of the maximum section, and approximately 1180 ft. long at the crest. The central angles at the higher elevations in the Hoover dam, where arch action will be most important, will be considerably greater than those at corresponding elevations in the St. Francis dam. The St. Francis dam was essentially a gravity dam; the Hoover dam will be essentially an arch dam. The St. Francis dam was not provided with construction joints; the Hoover dam will be provided with construction joints and the joints will be thoroughly grouted under high pressure after the heat of settling has been dissipated. The St. Francis dam was not provided with an adequate drainage system, either at the base or within the dam; the Hoover dam will be provided with an efficient drainage system, within the great mass of concrete as well as at the base of the structure.

Some of the abutment material at the St. Francis dam site can be crushed in the fingers when dry. It disintegrates and falls to pieces when placed in water. The abutment material at the Hoover dam site, placed in an accurate testing machine, withstands a compression of 8000 lbs. per sq. in., a pressure more than 18 times as great as the maximum stress in the concrete.

Some of the most eminent and conservative geologists in the country have examined the rock at the Hoover dam site and have approved the material as satisfactory for the foundations and abutments of a dam of the size specified. Among those of international reputation who have passed on the geology of the dam site are Charles P. Berkey, M. AM. Soc. C. E., professor of Columbia University; Warren J. Mead, affiliate Am. Soc. C. E., professor at the University of Wisconsin; and F. L. Ransome, professor at the California Institute of Technology. The very fact that the

canyon walls have stood with practically vertical sides throughout the ages necessary for the river to cut its bed down to the present level is prima facie evidence that the rock is strong and durable.

In the Hoover dam, about two thirds of the total water load will be carried by arch action. There is no question regarding the transfer of load by arch action in such a dam. The arches must act. They cannot help but act. Such minute opening as may exist at the construction joints after the concrete has cooled to normal temperature will be completely filled with grout. Consequently arch action will begin as soon as the reservoir begins to fill. If any openings whatsoever should exist after the grouting operations are completed they will be closed—by the deflections of the cantilevers and by the tangental deformations resulting from stress conditions within the dam—long before the water surface in the reservoir rises to such a level as to approximate full load conditions.

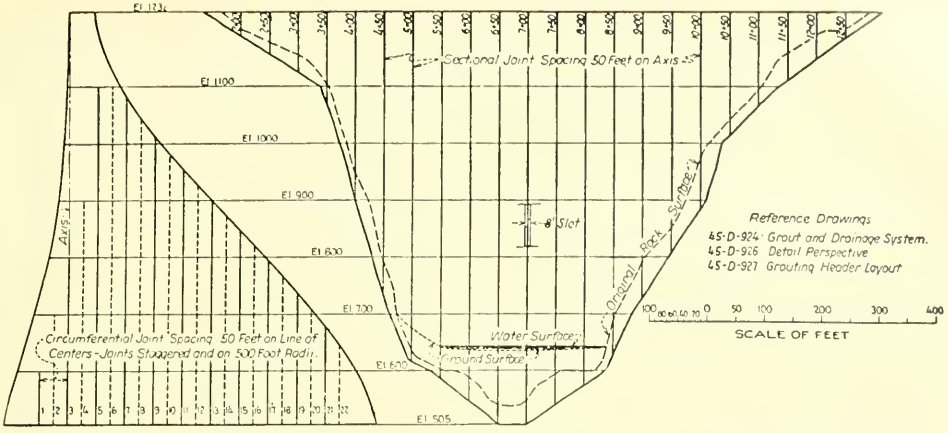
The proportion of water load carried by arch action has been determined by the trial-load method of analysis which has been developed at the Denver office of the U. S. Bureau of Reclamation during the last eight years. This method of analysis is not an experiment. It has been tested in many ways. It was checked against measurements on a concrete model of the Stevenson creek test dam. It was checked against measurements on a concrete model of the Gibson dam. It is being checked against measurements on a plaster of paris and celite model of Hoover dam. Anyone who questions the possibility of load being transferred to the abutments by arch action in a structure like Hoover dam is grossly ignorant of the important developments which have been made in arch dam design and construction during the last ten years.

The factor of safety of an arch dam is not determined by the calculation of its sliding factor. The assumption of an uplift pressure varying from full reservoir head at the upstream edge of the base to zero at the down-stream edge, applied to the full area of the base, and the calculation of the sliding factor on such an assumption, as was done by Mr. Gerry in his article criticizing the design, would probably indicate the failure of every existing arch dam in the world. The fact that no arch dams have failed in such a way shows that the sliding factor is not a criterion on which to judge the safety of an arch dam.

However, if Mr. Gerry wishes to calculate the sliding factor for Hoover dam—and will do so correctly—he will find that the structure is safe as a gravity dam. The sliding factor of 0.94 given in his article is not correct. The true value, calculated for the uplift conditions assumed in his article, is 0.74. Mr. Gerry did not mention the weight of the water on the upstream and downstream faces of the dam. He neglected to include this important vertical force in his calculations. This unfortunate neglect, together with his illogical comparison of the St. Francis and Hoover dams, is enough to discredit his article.

If the uplift action is assumed to act over two thirds of the area of the base, which is a reasonable and conservative assumption, as shown by a comprehensive study of all available data on this important subject, the true sliding factor is 0.60. Such a value is a very safe and conservative figure for straight gravity dams. The assumption made by Mr. Gerry, that uplift pressure is exerted over the full area of the base, is equivalent to the assumption that the entire dam is resting on water; or, in other words, that no part of the base is in direct contact with the foundation rock.

Hoover dam is being designed in a most conservative manner and with the utmost care. Vertical compressive stresses at the upstream face of the dam exceed the water pressure at all levels. In other words, the criterion described by Maurice Levy many years ago, a criterion which has generally been accepted by the leading engineers of Europe as well as by those of America as being ultra conservative, is fulfilled at all elevations in the case of Hoover dam. Because of the unprecedented size of Hoover dam, many problems not heretofore encountered in dam design must be carefully investigated. These problems are being



Cross-section of the Hoover dam and profile on axis of dam as shown in one of the official drawings. The vertical lines in the cross-section show the spacing of circumferential joints. The depth to which the excavation for the dam is carried into the rock walls of the canyon is indicated on the profile. It is obvious that if the dam ever slides it will have to push a tremendous mass of solid rock ahead of it.

studied by means of models as well as by mathematical treatment based on physical laws. Some of the newer problems are difficult of exact mathematical solution. However, they can all be solved with a degree of accuracy which leaves no doubt regarding their possible effect on the safety of the structure.

Special problems which are being investigated in connection with the design of Hoover dam include the transfer of load by tangential shear; the transfer of load by twist; the non-linear distribution of stress in both arch and cantilever elements; the effects of water soaking of the concrete near the upstream face of the dam; the effect of Poisson's ratio, the effects of volumetric changes in the concrete; the effects of interior concrete temperature changes; the deformation of the abutment and foundation rock; the spreading of the canyon walls due to reservoir pressure; the movements of the earth in the bottom of the reservoir due to the weight of the accumulated storage; the effects of earthquakes; the effects of high velocities on the concrete lining in the spillway shaft; the stresses in the tunnel lining and in the rock formations surrounding the tunnels; the hydraulic conditions of flow in the spillway and outlet structures; and the amount and effect of the air content in the spillway discharge.

The technical investigations have been under way for several years. It is anticipated that they will be brought to a satisfactory stage of completion sometime during the year 1932, before actual work on the construction of the dam is begun. The results of the various investigations will be presented to the engineering profession for their information, for their discussion, and for their constructive criticism at as early a date as possible. However, there never has been and never will be any question regarding the absolute safety of Hoover dam.

During the 30 years which have elapsed since its formation, the Bureau of Reclamation has built more than 100 dams; many of them more than 100 ft. high, nine more than 200 ft. high, five more than 300 ft. high, and one, Owyhee dam, which will probably be completed this year, more than 400 ft. high. Probably in every case where the dam was high enough to attract attention, some critic has predicted that it would fail. Thus far, not a single one has failed. Hoover dam will be no exception. It will stand as long as Black canyon itself.

The ARCHITECT'S VIEWPOINT

¶ *Architects for Architecture*
¶ *The License Laws*
¶ *The Graduate's Opportunity*

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AN architectural situation which persistently exists in our cultured and enlightened nation has been troubling to an increasing extent the architects and allied interests in the building industry. That is, a custom followed by a large part of the building public and their governmental agents, of securing architectural service outside the architectural profession.

The public, who should be concerned in having their money economically and efficiently expended when a building is involved, commonly fear the architect and place themselves at the mercy of builders and others lacking in architectural training. For the designing and erection of buildings of more extensive public importance, the people's representatives in public office are wont to rely on men trained in fields widely differing from architecture.

The head of our great architectural bureau in the Federal Government, at present handling work aggregating many millions of dollars, was trained as a lawyer and appeared to become connected with the Government's architectural office after some business experience in the purchase of live stock. The active head of the architectural organization handling the permanent housing program for the army, also aggregating many millions, is, and always has been, a soldier. In accordance with a long established custom of the War Department to house its personnel and activities in buildings archaic in type and lacking in architectural character, he has been given little or no opportunity to come in contact with architecture as embodying efficient and economical planning as well as aesthetic expression. Our municipalities, in their eagerness for "economy", have their buildings frequently planned and erected under the supervision and control of officials who fail to realize the value of the architect's services and think that by eliminating the architect they save the architect's fee. Repeated failures seem to have no apparent effect in bringing about a change in procedure.

This is in marked contrast to the older countries of Europe where architecture is recognized as a national asset and where Governmental buildings are considered as being worthy of having applied to them the best architectural talent. The Government of France, for instance, regards architecture so highly that it has maintained from its early history a world renowned architectural school generously made available to architectural students from other countries where many of our nation's distinguished architects in the past received their education. For appointment to design the government buildings in France, only the most distinguished and capable graduates of this school are eligible.

The newness of our civilization and the incoherent character of its citizenship might possibly be charged with at least contributing causes toward our country's architectural condition. It is a simple matter to state and to understand what architec-

ture is: merely the expression of practical building requirements in terms of art. Although simple in definition its general lack of recognition by the public is evident. They either fail to understand or to realize its importance. Americans are not yet "architecture minded", as in the older communities.

* * *

IN addition to architecture failing to get its due amount of consideration, the title "architect" does not generally indicate in this country, one who will plan and supervise the construction of a building to meet most effectively its practical requirements. Apart from any misconception as to architecture in the public mind, this condition does not appear to be wholly illogical, as an "architect" for many years has been merely one who called himself by that title regardless of any educational or professional qualifiications he may have had. This is the condition our architects license laws are endeavoring to correct.

These architects license laws were hailed by some enthusiasts in the architectural profession as a panacea for our ills and as an effective means of getting architectural practice at once adequately established. These enthusiasts were doomed to disappointment. Since legislation could not deprive one of his business, all who called themselves architects, regardless of qualifications becoming legally "certified", were placed technically on a par with those whose qualifications were determined by some form of examination. Again, too much should not be expected of these aspirants who were examined and passed, as their qualifications were determined by boards whose ability to function properly depended on the political viewpoint of the appointing authority.

We must wait for the passage of time to eliminate the architects certified otherwise than by professional examination. With the increasing complexity of architectural practice and its necessary co-operative character, since an architect can no longer handle the many details involved, the determination by examination of who is properly qualified becomes more and more difficult. It would seem that the efforts of the profession and others interested could best be directed towards securing qualified appointees for examining boards with such legislation as will enable them to fully meet their responsibilities. This is immeasurably more important than getting an act with "teeth in it", as many architects apparently desire, to further restrict the public. Under the best conditions the time can never be expected to arrive when the selection of a certified architect will in itself provide a guarantee to the owner that the architectural conditions of his building project will be satisfactorily met. "Employ an Architect", is good fundamental preliminary advice, but, "Select your Architect", will always be of supplemental importance.

* * *

OUR higher institutions of learning, early in the summer, held their "Commencement" and many hundreds, maybe thousands, of the younger generation trained in the high ideals and appreciation of architecture and art at our architectural schools, have already "commenced" to find their place in our social structure with the hope that the training received will start them on a course of usefulness to society and satisfaction to themselves, including a due amount of financial return for their efforts. With conditions as they are in the architectural field many have undoubtedly met with temporary disappointment, but although opportunities cannot be found to apply their abilities directly in conformity with the hopes they had entertained, in whatever line of business activity they may find it necessary to engage, either temporarily or permanently, they should, and will, have a valuable influence on the public's realization of the value of architecture and art.

There can be no doubt that what the country particularly needs in its present state of development is ability to plan in a wise, orderly and logical manner and give plans

expression above the bare plane of materialism. This is the fundamental teaching of our architectural schools and their graduates should understand that the country needs them although it may not offer employment strictly in line with their desires. If we architects cannot offer them "a job" in connection with our precarious and many sided vocation we should give what encouragement we can in spite of any present deplorable lack of appreciation. "Art" still remains "one of the few permanent things in the world", and secure in this belief we can all endeavor to bring about an adequate realization of architecture in the public mind.

CHARLES H. ALDEN, F.A.I.A.

PRIVATE VS. FEDERAL ARCHITECTS

(Editorial in Pacific Builder and Engineer)

An admirable opportunity to compare the quality and speed of the work of private architects with the quality and speed of the work of the U. S. Treasury Department's architectural office is found in two Federal buildings of similar magnitude in the same city.

In June, 1930, newspapers reported that the acting supervising architect had started plans for Seattle's Federal office building. A month later John F. Miller, then congressman, announced that plans would be completed in September and bids called in October, 1930. Bids were not called, however, until June, 1931, an apparent delay of about nine months. More than 13 months elapsed from the time plans were started until bids were opened July 21, 1931.

On December 17, 1930, John Graham and Bebb & Gould, Seattle architects, were retained to design the Marine Hospital. On January 8 the preliminary or cabinet sketches were presented and approved. On February 18 the eighth-scale drawings were approved. On March 18 the complete architectural, structural and mechanical plans were completed in every detail, and formally submitted. On March 30 the plans had been approved. Just three months elapsed from the time the private architects signed their contract with the Government until the plans were ready for the bidders. Bids on this structure were opened May 18, more than two months ahead of the bid opening on the superstructure of the Federal office building, plans for which had been started six months before architects had been retained for the Marine Hospital.

Here were two Federal structures of approximately the same cost, one designed by Federal and the other by private architects. Despite a six-months lead, the Federal architectural office trailed the private architects by more than two months in awarding their contract.

This is no reflection on the individuals who comprise the staff of the acting supervising architect. They are capable and conscientious, but they are handicapped by an organization which is perforce unwieldy.

* * *

So much for the time element. A professional quantity surveyor who is recognized as fully qualified to pass upon the workmanship in architects' plans, is authority for the statement that the plans and specifications on the 3-months Marine Hospital were complete, simple and explicit, while the 12-month plans on the office building were involved, ambiguous and confusing. The 3-month private plans comprised an easy task for the quantity surveyor; the 12-month Federal plans presented innumerable pitfalls for him. In other words, one set of plans were complete and easy to read; the other was not so easy to read. Score another point for the private architect.

* * *

If the Federal Government is having many similar experiences, it can have no alternative other than to continue to use capable private architects on future Federal buildings.

It should be revealed here that contracts now submitted to architects by the Government do not include supervision of construction. This duty is reserved for Government construction engineers. The private architect is told he "will be treated courteously" if he cares to visit a building of his design while it is under construction—but he has no authority to guide or direct or aid the constructor or the subcontractors. The private architect whose brain creates on paper a great Federal structure must see his plans executed under the direction of a man who, although he may be capable, has never seen the plans until they were fully completed.

The Federal Government is taking the stand that its interests cannot be safely entrusted to the

hands of a private architect, although he may have successfully executed difficult commissions for exacting private owners. This publication believes that it IS to the best interests of the Government, all things considered, to have its own construction engineer on the job. But this engineer should either work with or under the architect. His authority should be subordinate to or parallel with that of the architect.

By requiring the architect to share the responsibility of supervision, the Government would be assured that interpretation of plans would be accurate, construction would be expedited, disputes quickly settled.

By having its own construction engineer on the job, the Government would have a definite check on the work both of architects and contractor. Any lack of capacity, integrity or ability on the part of the architect could be immediately reported by the construction engineer to his superior at Washington, D. C.

LONG BEACH HONOR AWARDS

Recent honor awards for meritorious work in Long Beach are announced. The jury was composed of Sumner Spaulding of Webber and Spaulding, of Los Angeles, chairman; Palmer Sabin of Pasadena, and Pierpont Davis of Los Angeles. Natt Piper of Long Beach served as chairman of the Award Committee, assisted by George W. Kahrs of Piper and Kahrs, Long Beach, and W. K. Webb, also of that city.

The honor awards in the form of certificates on parchment were presented at a banquet held at the Pacific Coast Club of Long Beach, and were awarded in triplicate, the architect, owner and general contractor each being the recipient of a certificate.

In the residential class those receiving honor awards together with the winning designs were Kenneth Wing, residence of A. J. Stevens, Jr.; Kirkland Cutter, residence of Donald P. Conditt, and L. T. Edwards. Two of Kirkland Cutter's designs were winners in the exhibition.

Hugh R. Davies received the only two awards in the public building classification, one being the Recreation Park Club House and the other the Garfield School. Kenneth Wing and Hugh R. Davies were granted the awards in the miscellaneous building class on the Jones Clinic Building and East Branch Y. M. C. A. respectively.

For landscape work the honors went to the firm of Piper and Kahrs on the grounds of the Will Gill residence, and to Margaret Wotkyns on the grounds of Harry Buffum.

CERAMIC PAVILION AT CHICAGO

How the uses of ceramic products, including terra cotta, face brick, tile, pressed brick, glass and other related materials may be presented in dramatic and unusual form to the millions of visitors to Chicago's 1933 World's Fair, was the subject of discussion at a recent meeting of representatives of the American Ceramics Society and officials of "A Century of Progress Exposition."

The construction of ceramic pavilion for the 1933 World's Fair, designed by Harvey Wiley Corbett, and composed outside and in of ceramic materials, including brick, terra cotta, tile, decorative tile and similar materials, was discussed. Such a building, it was pointed out, could illustrate to visitors to the exposition the possibilities of clay products in the new architecture "A Century of Progress" will present. The ceramic materials could lend to the pavilion a rich appearance by day and by night.

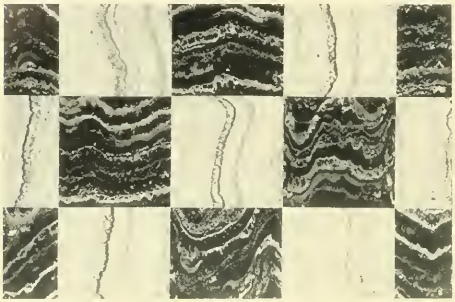
An exhibit dramatizing the manufacturing processes and portraying the various methods by which ceramic materials are produced could be shown inside the building. The processes of modeling, spraying and firing could be depicted, so as to show the visitors that brick, tile, terra cotta and related products are made from soft material. The history of these materials and the improvement in their manufacture in the last century, due to the application of scientific discoveries in the industry, could also be dynamically shown.

NEWSPAPER BUILDINGS

An exhibition of the work of F. D. Rutherford, architect, of Santa Monica, was held last month in the Architects' Building, Fifth and Figueroa Streets, Los Angeles. Mr. Rutherford specializes in schools and newspaper buildings. The exhibition was largely representative of the latter. Photographs, sketches and floor plans of the buildings for the Hollywood News, the Santa Monica Outlook, Long Beach Sun and Alhambra Post-Advocate were included in the display. The buildings are all Spanish or California type of architecture.

NEW DEVELOPMENTS IN LINOLEUM

Two new types of inlaid linoleum have recently been announced by the Armstrong Cork Company. Both are quite different from anything that



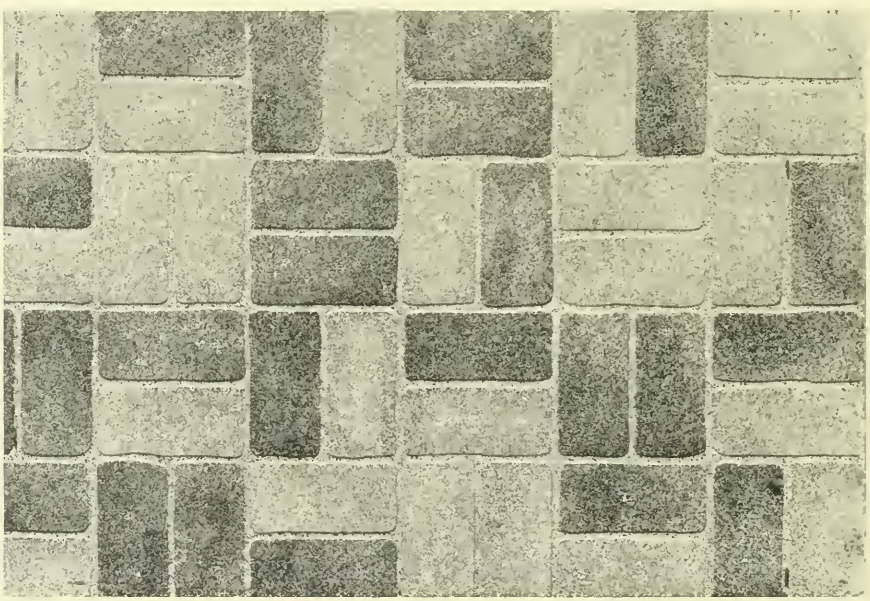
HAND-MADE MARBLE INLAID LINOLEUM

has been offered heretofore and will probably be found very usable by architects and builders of residences and public buildings. One of the developments is in Armstrong's hand-made marble inlaid linoleum and the other in Armstrong's embossed linoleum. Speaking of the new product a representative of the company said:

"By a new manufacturing process a greatly improved and remarkably attractive marble veining has been produced. It is a close approximation of the natural veining and coloring found in certain types of quarried marble. The clear and intense colors are all inlaid and will retain their beauty in spite of heavy traffic.

"Six different designs are offered in this new type of hand-made marble inlaid linoleum. The color contrast in all of them is quite strong, and hence floors will not readily reveal traffic marks. They are particularly suitable for public and commercial buildings, such as stores, restaurants, offices, hotels, hospitals, show rooms, and schools, and they can also be used to advantage in residences.

"The new development in Armstrong's embossed inlaid linoleum consists of introducing mottled or shaded tiles in patterns. The shading is accomplished in such a manner that the effect



EMBOSSED INLAID LINOLEUM WITH MOTTLED OR SHADED TILES IN UNIQUE PATTERNS

produced gives an interesting antique appearance to the tile. These new designs, which are six in number, reproduce both the texture and color of ceramic tile floors. Frequent occasion to use them will be found in residences and buildings of Spanish architectural style."

PORTLAND BUILDING NEWS

Whitehouse, Stanton & Church will hereafter be the name of the firm of Morris H. Whitehouse and associates, the new members being A. Glenn Stanton and Walter E. Church. This office is now busy on plans for the $1,250,000 Federal building.

Harry A. Angell is architect for a golf clubhouse, estimated to cost $25,000, for the Portland Park Commission.

J. W. DeYoung is architect for a proposed office building at Fourth and Washington Streets, the site of the present Washington building.

A contract has been awarded for construction of the Pacific Co-Op. Poultry Producers plant at 360 E. Ash Street. Charles D. James is the architect.

Elmer E. Fieg is architect for an apartment house estimated to cost $80,000, to be erected on the southeast corner of 18th and East Hoyt Streets, and to contain 26 suites.

Walter E. Kelly is architect for two hospital buildings—one at McMinnville, to be concrete with white stucco, modernistic with ornamental iron grille, and the other at Hood River, to be "T" shaped, with the front three-stories and basement, 36x22 feet, and a two-story and basement main section, 78x36 feet.

Dougan-Reverman, Inc., architects, are completing plans for the Jesuit college near Sheridan, the buildings to cost $400,000. Construction will be of reinforced concrete.

C. W. MATTOCK

C. W. Mattock, 49, general contractor and brother of Arthur Mattock, a member of the San Francisco Builders' Exchange, died in August, following a brief illness. Death was due to heart trouble.

Mr. Mattock was associated with his brother in the general contracting business.

STATE BUILDING PROJECTS

George B. McDougall, Chief of the Division of Architecture for the State of California, has supplied the following information concerning State building projects and progress of structures underway or planned:

The second unit at the State Hospital, Southern California, depends on the selection of a site for this institution. It is expected that this site will be selected in time to permit getting construction under way during the current year.

The above statement applies also to employees' quarters, administration building, farm group, laundry, etc., at this institution—Total amount available.. . . . . $1,100,000

Industrial Home for Adult Blind—Superintendent's residence 15,000
This residence will *not* be built at this time.

Napa State Hospital—Improvements to wards; About eighty additional rooms for patients with other spaces will be added to existing buildings at a cost of about 80,000

Napa State Hospital—Additions and repairs. 25,000
Now under way.

Mendocino State Hospital, Talmage 60,000
A new ward building for patients is now under way

Sonoma State Home—School and gymnasium, fire house and ward building for patients. 124,000
Working drawings and specifications are complete.

State Narcotic Hospital—Two ward buildings and superintendent's residence and assistant physician's cottage. 59,000
Working drawings and specifications are nearly complete and will soon be advertised for bids.

Preston School of Industry—Shop buildings. 25,000
This structure is now under construction in the field.

Santa Barbara State Teachers College—Training school. 50,000
Preliminary sketches are being made and it is presumed that working drawings can be completed so that this job can be advertised for bids within the next two or three months.

Patton State Hospital—Dairy unit. 25,000
Preliminary drawings are being made and working drawings will probably be out for bids within about two months.

Agnews State Hospital—Kitchen equipment. 20,000
Now being purchased.

Stockton State Hospital—Alteration to laundry. 5,000
Now under way.

San Quentin State Prison—New cell block and solitary confinement unit 250,000
Working drawings now being completed. Work in the field will start within about one month.

Whittier State School—Barn, garages and warehouse 12,000
Preliminary drawings have been made. Working drawings will be complete and work gotten under way within the next two months.

Whittier State School—Employees' cottage. 8,500
Preliminary sketches are being made and working drawings will be advertised for bids within about two months.

San Diego State Teachers College—Gymnasium unit 205,000
Working drawings are being completed and will be ready for bids within about one month.

San Quentin State Prison—Industrial building 50,000
Probably will not be under way in the field until the end of this year or early in 1932.

National Guard Armory, Pasadena. 50,000
The site is just being turned over to the State and preliminary drawings have been started. Working drawings will probably be complete so as to be advertised for bids within about two months.

Santa Barbara State Teachers College—Science building. 120,000
Bids have already been received but were too high and have been rejected. Will be advertised for bids a second time within the next month.

Pacific Colony—Three ward buildings and addition to dining room 190,000
Preliminary sketches are being made for ward buildings. It is expected that working drawings will be ready for bids in between two or three months. This statement applies also to the addition to the dining room.

Pacific Colony—Farm cottage. . . . . .
Is not to be built.

Agnews State Hospital—Pathological laboratory. 80,000
Working drawings are being made and will be advertised for bids in about two months.

Sonoma State Home—Physician's Cottage 10,000
Will be advertised for bids in about two months.

Norwalk State Hospital—Ward building at farm. 75,000

San Quentin State Prison—Jute mill and prison wall. 65,000
Construction in the field will start early in 1932.

Folsom State Prison—Kitchen and commissary building 100,000
Preliminary sketches are started. Working drawings will be gotten under way so that excavation can be started in the field within two months.

National Guard, San Luis Obispo—Addition to training camp
This work is already complete.

Folsom State Prison—Warehouse 5,000
Now being constructed.

Department of Agriculture—Border stations 18,000
Contract has been let for a station at Crescent City and bids will be asked for on a second station at Hornbrook shortly.

Humboldt State Teachers College, Arcata 170,000

Working drawings for new training school building are now being made by F. T. Georgeson and will be ready for bids in between one and two months.

New State Hospital, Southern California . . . . . Already referred to above. The site at Arlington, near Riverside, suggested sometime ago, has been discarded and it is expected a new site will soon be selected.

I believe the above gives you the best information we have at this time regarding these projects and trust it will be of service to you.

Yours very truly,
GEO. B. McDOUGALL.

TENTATIVE PROGRAM

. . . for . . .

Fourth Annual Convention The State Association of California Architects

Mission Inn, Riverside, October 9-10, 1931

FRIDAY, OCTOBER 9TH

Morning: Registration; Opening Session, President Orr presiding; Address of Welcome, Mayor of Riverside; Introduction of Host (Mr. Miller) and Remarks; President's Address; Business Session, Consideration of Committee Reports; Reports of Officers.

Noon: Luncheon, 12:30 to 1:30; Speaker at Luncheon.

Afternoon: Addresses; Report of the Unification Committee (Edwin Bergstrom, Chairman); Discussion and Adoption of Report with Recommendations; Qualifications of Bidders for Public Work; Uniform Building Ordinances Relative to Signing of Plans; Messages from Afar.

Evening: Banquet, 6:30 to 9:00; Joint Meeting of Southern California Chapter, A.I.A., with the State Association of California Architects, H. C. Chambers presiding; Entertainment; Speakers; (a) The Best Thoughts from Northern California, (b) The Best Thoughts from Southern California, (c) The Best Thoughts from San Diego and Imperial Society of Architects; After Dinner Talks, limited to ten minutes each; Entertainment and Dancing.

SATURDAY, OCTOBER 10TH

Morning: Breakfast Conferences in Designated Groups, 7:30 to 8:30; Assembly, Vice-President Charles F. B. Roeth presiding; Speaker; Unfinished Business; New Business; Presentation of Class of 1930-31 (Newly Licensed Architects) by John C. Austin, President, State Board of Architectural Examiners; Report of Resolutions Committee; Nomination and Election of Officers; Remarks by President-Elect; Adjournment; Special Events for the Ladies.

Noon: Luncheon, 12:30 to 1:30; Speaker at Luncheon.

Afternoon: Golf Tournament, direction Paul J. Duncan and Harris C. Allen.

Evening: Golf Dinner for Participants in Golf Tournament and All Others; Presentation of Prizes; Social Affairs.

ARCHITECTS MOVE

Joseph L. Stewart has moved to Room 504, 400 Sansome Street, San Francisco.

Wm. Knowles has moved to 429-20th Street, Oakland.

Hugh C. White has moved to 915 Hillcroft Circle, Oakland.

Harry B. Aarens is at 6362 Hollywood Boulevard, Hollywood.

Lutah Maria Riggs has moved to 240 Middle Road, Santa Barbara.

SPANISH TYPE DWELLINGS

Seven Spanish dwellings will be erected on Parkside Drive, Piedmont, from plans by Harry K. Jensen, 354 Hobart Street, Oakland. A Jensen is the owner.

TO REVISE WAGE SCALE

The San Francisco Builders Exchange has taken the initiative toward securing a revision of the Bay District wage scale by inviting the Industrial Association to conduct hearings and receive testimony, both oral and written, for the ostensible purpose of changing the present wage scale to conform with living conditions. The resolution in full follows:

WHEREAS, the Impartial Wage scale for the building trades of San Francisco and vicinity was adopted in the Fall of 1928 to be effective April 1, 1929 for the year 1929 and until such time as it became necessary to make a revision, and

WHEREAS, the present business depression has caused a reduction in the price of all commodities and in labor in most lines of endeavor, and that the time has come when it is necessary to make a revision in the building trades wage scale, and

WHEREAS, the prices of rents, the prices of food stuffs, the prices of clothing have been very materially reduced, reducing materially the cost of living, and

WHEREAS, there is such a great differential at the present time in the wages being actually paid in the various crafts of the building industry that a revision in the wage scale comparable with the wages paid in other lines of business would stabilize the building industry, and

WHEREAS, it is believed that a stabilizing of wages in the building industry at this time would do much to stimulate business in the building trades, encouraging necessary repairs to buildings and necessary construction of new buildings, thus reducing unemployment in the building trades during the coming winter, and

WHEREAS, it is believed that if a just and equitable wage scale is established in San Francisco in the building and construction industry that it will be generally adopted throughout the State, resulting in a fair and reasonable price being paid for construction and building work, reducing the tax burden, as this class of improvements whether paid for through taxes or bond issues must finally be paid for by taxes, and

WHEREAS, it is absolutely essential at the present time that this result should be obtained for the protection of the farmer (after all, the largest taxpayer) to whom taxes are now a heavy burden on account of the well known fact that at the present time the prices received by farmers for their products of all kinds have actually reached a point where there is no profit to the farmer.

NOW THEREFORE BE IT RESOLVED, that the Board of Directors of the Builders' Exchange of San Francisco in regular meeting assembled on August 21, 1931, call upon the Industrial Association of San Francisco to at once call together and constitute an Impartial Wage Board, and

BE IT FURTHER RESOLVED, that this Impartial Wage Board shall sit immediately, receiving testimony both oral and written for a reasonable length of time, and then promulgate a wage scale for the building industry of San Francisco to become effective not later than October 1, 1931 and for the balance of the year 1931 and the year 1932

AND BE IT FURTHER RESOLVED that inasmuch as the factories in San Francisco engaged in the manufacture of supplies for buildings not only supply buildings in San Francisco but also must compete against similar concerns outside of San Francisco not only for goods delivered on buildings in San Francisco but also in other localities, that wages in such factories shall not be fixed by the Impartial Wage Board, the Impartial Wage Board confining itself to fixing wages in the building trades for mechanics and others employed on the buildings except in the case where the factories of any craft may ask the Wage Board to set the wages.

WITH *the* ARCHITECTS

H. A. MINTON BUSY

H. A. Minton, architect, recently returned from his vacation, finds plenty of activity in his office to keep the busy sign prominent. New work includes a four story reinforced concrete home for girls on Silver Avenue, San Francisco, to cost $200,000; a reinforced concrete parochial school at Redwood City, $125,000; San Francisco College for Women, Lone Mountains, and Bank of America alterations at Los Angeles, Santa Barbara, Chico, Oakland and Berkeley.

CHICO ARCHITECTS ACTIVE

Cole & Brouchoud of Chico have completed plans for an addition to the library building at the State Teachers College, Chico, for which there is an appropriation of $107,000. The same firm of architects have completed drawings for a stone and rustic museum for the Native Sons and Daughters of Oroville and sketches have been prepared for a substantial addition to the French Brother's School in San Francisco.

STATE TRAINING SCHOOLS

Plans for two State Teachers College units have recently been completed by private architects. One is a training school at Arcata, Humboldt County, Franklin T. Georgeson of Eureka, architect, and the other a science building at San Jose, Ralph Wyckoff, architect. The two buildings represent a total of State funds to be expended of close to $500,000.

GROUP OF DWELLINGS

The block bounded by Anza, Geary, Point Lobos and Clement Streets, in the Richmond District, San Francisco, is to be improved with modern dwellings costing from $6500 to $10,000 each. Plans for the structures are being drawn by Albert H. Larsen, 447 Sutter Street, San Francisco.

FEDERAL BUILDING

Bebb & Gould and John Graham, of Seattle, are associate architects for the $210,000 Federal building and postoffice at Longview, Washington. H. L. Copeland will act as resident architect.

THEATER AT INDIO

Morgan, Walls & Clements, 1135 Van Nuys Building, Los Angeles, are preparing working drawings for a moving picture theater to be erected in Indio for Mrs. Grace Pawley. The building will be of modified Spanish design and will provide 670 seats; masonry construction with reinforced concrete skeleton frame, built-up roofing, cement floor, ventilating and heating systems.

POSTOFFICE BUILDING

Ralph C. Flewelling, 450 N. Beverly Drive, Beverly Hills, Allison & Allison, consulting architects, 1005 California Reserve Building, Los Angeles, have been commissioned by the Treasury Department to prepare plans for the new U. S. postoffice to be erected in Beverly Hills. The sum of $300,000 has been appropriated for the construction of the building.

NOVITIATE BUILDING

Edward A. Eames, architect, 353 Sacramento Street, San Francisco, has completed plans and is taking bids for a four story steel frame and concrete Mother House and Novitiate to be built on the grounds of the old Kohl residence at Burlingame. More than $200,000 will be expended.

ARCHITECTS SELECTED

Reed & Corlett and E. W. Cannon, associated, have been selected to prepare plans for Oakland's new Exposition Building to be built at a cost of $125,000 near the present Municipal Auditorium. It will replace the temporary horse show building destroyed by fire last winter.

SAN JOSE COURT HOUSE

The San Jose court house, damaged by fire several months ago, will be rebuilt from plans by Binder and Curtis of that city. The shell of the old building will remain, the walls to be reinforced with a steel frame. The Supervisors will spend about $200,000 on the work.

APPROVE UNIFICATION PROGRAM

The unification program of the American Institute of Architects and State Architectural Societies was approved by the Southern California Chapter, American Institute of Architects, at the regular monthly meeting of the Chapter held at the Westport Beach Club, Playa Del Rey, on Tuesday evening, August 18.

The following members attended the meeting: Edwin Bergstrom, H. C. Chambers, Pierpont Davis, A. M. Edelman, Ralph C. Flewelling, R. Germain Hubby, Gordon B. Kaufman, H. Roy Kelley, Robert H. Orr, Palmer Sabin, Wm. Field Staunton, Jr., Eugene Weston, Jr., Carleton M. Winslow, David J. Witmer, J. T. Zeller, Scott Gerity, J. Robert Harris, Wm. H. Kraemer and Samuel E. Lunden.

The unification program approved by the Chapter is set forth in the report adopted at a meeting of the unification committee of the A. I. A. and the State Societies held recently at Indianapolis, and published in full in this magazine in the August issue.

STORE BUILDING

H. A. Minton, Underwood Building, San Francisco, has prepared plans for a one-story and basement store building, 33x85 feet in area, to be erected at the northwest corner of State and Figueroa Streets, Santa Barbara, for the Capital Co.; Owl Drug Co., lessee.

ITALIAN RESIDENCE

Gardner Dailey, architect, 425 Mason Street, San Francisco, has completed plans for a $25,000 stucco residence to be built at Hillsborough for Dr. Dickson Bell. The house will have a terra cotta tile roof, nine rooms, five tile bathrooms and a three car garage.

FLAT BUILDING

A two story frame and stucco Spanish type flat building is planned for Roosevelt Way and Clifford Terrace, San Francisco, at a cost of $15,000. Charles F. Strothoff, 2274-15th Street, is the architect.

STATE CONVENTION

The Fourth Annual Convention of the State Association of California Architects will be held at Riverside, California, October 9 and 10.

SPOKANE ARCHITECTS ORGANIZE

Spokane has a new architects organization called the Spokane Society of Architects. Officers are Julius A. Zittel, president; Archibald G. Rigg, vice-president and Ogden F. Beeman, secretary-treasurer. Meetings are held every Friday at the Spokane Hotel.

The aims of the Spokane Society of Architects, as given in its constitution are:

1. To unite in fellowship the architects of Spokane for the promotion of their mutual interests.

2. To combine their efforts so as to promote the aesthetic, scientific, and practical efficiency of the profession.

3. To cooperate with other organizations, local, state and national, for the furtherance of these ends.

Membership of Spokane Society of Architects includes:

Ogden F. Beeman	Archibald G. Rigg
Henry C. Bertelsen	Stanley A. Smith
Claude R. Butcher	Noel E. Thompson
Charles I. Carpenter	Roland M. Vantyne
Arthur W. Cowley	Harry C. Weller
George A. Pehrson	William A. Wells
F. Omar Hughes	Fred Westcott
Ernest V. Price	Harold C. Whitehouse
L. L. Rand	Charles Wood
George M. Rasque	Julius A. Zittel

BURLINGAME ARCHITECT BUSY

The office of W. C. F. Gillam, architect (Coleman and Gillam), 1401 Broadway, Burlingame, reports considerable work completed and on the boards, including a $35,000 Spanish apartment house court in Burlingame Heights for H. A. Norton; remodeling All Saints Episcopal Church, San Francisco; English house for Laren McGee on Easton Drive, Burlingame, and an English stucco residence on Burlingame Avenue for F. L. Hawken. The two last named houses are to be built by the George W. Williams Company, Ltd.

SAN JOSE RESIDENCE WORK

Wm. E. Higgins, architect, successor to Wolfe & Higgins, 19 North Second Street, San Jose, has prepared plans for a $15,000 residence in the English type, to be built in the San Jose foothills for P. Muetze, 84 Clayton Street, San Jose. Mr. Higgins has also completed drawings for a duplex house and residence on Naglee Street, near Park Avenue, San Jose, for J. S. Mise.

U. C. ARCHITECTURAL ALUMNI

A committee to take charge of the affairs of the organization of the architectural alumni of the University of California is composed of William W. Wurster, chairman, Stafford L. Jory and David Horn. The committee has issued the following announcement:

"The Architectural Alumni Association of the University of California is planning a series of events which will be of interest to members and students of the school.

"In May letters were sent out to available addresses announcing the first event as a visit to the San Francisco Stock Exchange Building and Club with its work of many artists. Some fifty attended and spent an instructive and pleasant afternoon. Any alumni not having received the above letter and being interested in receiving notices or in giving suggestions for future meetings will please communicate to the committee through the secretary, Mrs. Geraldine Colby Frickie, 1264 Vallejo Street, San Francisco."

NEW DRAFTING DEPARTMENT

The American Marble Company has discontinued its old factory site at 25 Columbia Square, San Francisco, occupied for the past twenty-five years, and now has its main office and clerical department in the Hobart Building, Market, opposite Second Street, San Francisco. The drafting and estimating departments have been moved into a new building at the South San Francisco factory. The company has a new telephone number, Sutter 2840, which calls both office and factory.

The officers of the American Marble Company are: President, A. F. Edwards; secretary, J. A. Mackenzie; vice-presidents, J. Rubiolo and D. A. Batsford; treasurer, J. M. Brenneis.

SEATTLE ARCHITECT BANKRUPT

John S. Hudson, Inc., and John S. Hudson, architect, of Seattle, has filed a voluntary petition in bankruptcy. Hudson's liabilities of $344,962 include $308,585 in secured claims and $20,377 unsecured. The corporation lists but $686.25 in assets against liabilities of $327,707. Hudson's assets are given as $1,600.

BUILDING CONGRESS

Further steps in the formation of a Building Congress in California were taken in August with the appointment of members of the architectural profession to represent that body in the Congress. E. L. Norberg, architect, will represent the California State Association of Architects in the Congress.

Albert J. Evers and Frederick H. Meyer will represent the State Board of Architectural Examiners and Harris Allen and Harry M. Michalsen, the Northern California Chapter, American Institute of Architects.

Builders' Exchanges and construction organizations throughout the Central and Northern California section are preparing to name representatives to the Congress which is now nearing permanent organization. Representatives of the State Engineers' Board and the San Francisco Architectural Club will also be named.

The aims of the Congress are to raise the standards in trade practice, eliminate waste in industry through standardization and increasing efficiency in all branches of the construction fraternity.

NEWSPAPER BUILDING

Plans have been completed by N. W. Sexton, architect, de Young Building, San Francisco, for a one story, hollow tile and stucco addition to the newspaper plant of the San Rafael *Independent*, Harry Lutgens, owner.

Another newspaper building, for which plans have been completed by John McCool, architect, San Francisco, is for the Redwood City *Tribune*. This building is now under construction by Wells Goodenough of Palo Alto.

CONVENT AT HONOLULU

Louis E. Davis, Boston Building, Honolulu, is preparing plans for a two-story reinforced concrete convent to be erected in Honolulu for the Sisters of the Sacred Heart. Estimated cost $150,000. Work will be started this fall.

STOCKTON RESIDENCE

Plans have been completed by John U. Clowdsley of Stockton for a $15,000 brick residence to be built on Madison Street, Stockton, for Mrs. Anne Griffin.

NEW STEEL BATH TUB

The first steel bath tub ever manufactured in the American conception of marketable quantity, was exhibited by the Mueller Co., Decatur, Illinois, at the Million Dollar Exposition of plumbing and heating products held in connection with the forty-ninth annual convention of the National

MUELLER EXHIBIT AT THE MILLION DOLLAR EXPOSITION OF PLUMBING AND HEATING PRODUCTS, DECATUR, ILLINOIS

Association of Master Plumbers in Milwaukee June 22nd to 25th. The new steel bath tub was shown along with an ensemble of other Mueller bath room fixtures emphasizing modern design and distinctive beauty in bath room appointment, as shown in the accompanying photograph.

Speaking of the advent of the steel bath tub, a representative of the Mueller Co. said: "As far back as the early 1900s, steel bath tubs were manufactured in the United States, but never before with complete success. The undertaking has been attempted intermittently since then by various manufacturers, each experiment proving unsuccessful due to the lack of recently acquired knowledge of how to fabricate the steel for this particular product. Some ten years ago German manufacturers also demonstrated that steel bath tubs could be produced successfully. But German methods were hand methods — and labor was cheap. Hence it remained to American ingenuity to find a way to make steel tubs in marketable quantities and at marketable price.

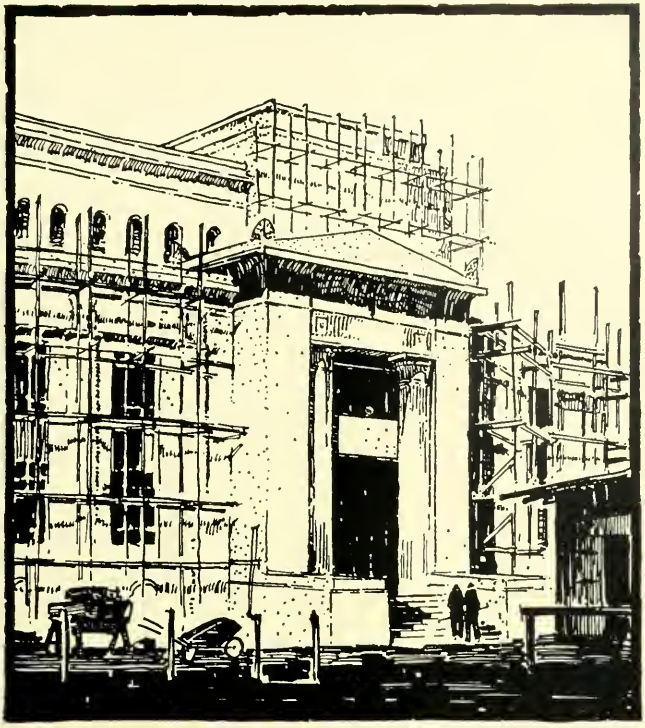
"Of primary interest to the plumber is the 60% lighter weight of the steel tub as compared to cast iron tubs of the same size. Installation is further simplified with the steel product because more accurate manufacturing precision is possible, exact measurements are maintained, so that size, placement of inlets and outlets always remain constant. The Mueller steel tub is provided with a high leak-proof up-turned flange to prevent capillary creepage of water into the enclosing walls and gives the finished installation more security.

"Of foremost importance in bath tub construction is the finish. Mueller steel tubs are porcelain enameled since no other finish possesses all the desirable features of this time-tested covering. The process of porcelain enameling steel is one of the oldest of applied arts. It is new only in its application to steel bath tubs. Porcelain enamel is applied to many other steel articles with results superior to those obtainable or cast iron surfaces, due to the perfect uniformity of the steel in chemical analysis and physical characteristics. Because fewer coats are required to achieve a high gloss, glass-like finish, there is less tendency towards crazing and cracking. Porcelain enamel, applied to steel is also more resilient, less likely to chip, more resistant to wear and corrosion and will not discolor. Ripples and dark spots, miniature mountains and valleys, are not seen in the steel tub.

"One of the most interesting features of the steel tub is that it can be furnished in standard colors—and the uniformity of colors guaranteed. This is a signal improvement. Guarantee of uniform color on cast iron is not given by any manufacturer, whereas, uniformity of any color is guaranteed on the new all steel bath tub."

LOS ANGELES FEDERAL BUILDING

John C. Austin and Frederic M. Ashley, Chamber of Commerce Building, and John Parkinson and Donald B. Parkinson, 808 Title Insurance Building, Los Angeles, have been commissioned by the Treasury Department to prepare plans for Los Angeles' new Federal building to be erected on the site of the present postoffice and adjoining property. The site of the new building extends northerly 525 feet along Main Street from the corner of what is now Temple Street, and its southern frontage will occupy the ground from the northwest corner of Temple and Main Streets to the west boundary line of the property formerly occupied by the old county jail. The building will be a 13-story structure and will cost between $7,000,000 and $8,000,000.



Over $245,000,000 for Building Materials

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ELEVATORS THAT GO TO SEA

Elevator installations on large steamships furnish many problems that the building owner and manager does not have to face. Some of these difficulties are reviewed in a recent statement from the Otis Elevator Company. Those familiar with ordinary building elevators will find in the "seagoing" installations many interesting features:

Ship elevators must not get "seasick." Elevators installed aboard ship must be provided with special safeguards in addition to those furnished with elevators operating under normal conditions in buildings, due to the rolling and pitching of the ship and the damp, salt atmosphere in which the elevators operate. Obviously all apparatus must be designed to occupy a minimum of space, space being always at a premium.

Controller switches must be so constructed that they will not close when the ship rolls or pitches. This is accomplished either by using the solenoid type switch with the armature moving vertically to make contact, or by using the clapper type switch on which springs are mounted with sufficient tension to prevent the switch from closing, due to its own weight.

Traveling cables, which carry the control wires to the elevator car, if allowed to hang free from the bottom of the car, will swing and the loop of the cable will catch on obstructions in the hatch, resulting in broken electrical connections and consequent shut-down of the elevator, until the cable is repaired or a new one installed. It is necessary, therefore, to provide a protective duct or sheath made of sheet metal, for the traveling cable, extending the full height of the elevator hatch. Since the cable is confined to this duct it cannot catch on any obstructions in the hatch.

All oil reservoirs for motor bearings, worms and gears, etc., have to be designed to prevent spilling of oil and at the same time to insure these parts a full amount of lubricant at all times.

Since ship elevators operate continually in a damp, salt atmosphere, all vital parts must be protected against rust or corrosion. The car safety and also the counterweight safety parts must have a rust resisting finish, such as Parkerizing or cadmium plating, to insure that these parts shall always be in working order so that they will not fail to operate when called upon to do so.

All iron or steel parts of controller switches, limit switches, gate contacts, etc., must be rustproof finished also, and all structural iron parts, such as controller frame, car frame, rail fastenings, should be painted with red lead.

Specify....

CORROSIRON

Acid Resisting

Drain pipe and fittings, valves, special fittings for conveying acids from chemical laboratories in schools, universities, industrial plants, etc.

MONEL METAL AND NICKEL

For kitchen equipment such as steam table tops, cooks' tables, shelving or special food equipment where sanitation is required.

PACIFIC METALS COMPANY, Ltd.
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Pacific Coast Needs for Exterior and Interior Marble

IN order to better meet the marble needs of the Pacific Coast, Vermont Marble Company operates mills and finishing plants at San Francisco and Tacoma with the most modern equipment, and under supervision of men familiar with West Coast requirements, by workers whose earnings add to local prosperity. Sales offices at Los Angeles and Spokane. Quarries, Alaska, Montana and Colorado.

VERMONT MARBLE COMPANY
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QUARTER CENTURY OF SERVICE

Leo Jacobs, vice-president and treasurer of the S. T. Johnson Company, was agreeably surprised when his friends and associates tendered him a party in honor of his 25 years of service with the company, at the home office, 940 Arlington Avenue, Oakland. Mr. Jacobs, who is in charge of the fuel oil department, was singularly honored by the representatives of major oil companies.

A. J. Bradley, vice-president and secretary, also a pioneer in the industry, presented Mr. Jacobs with a gift of appreciation on behalf of the company for his many years of work and honest endeavor.

Mr. Jacobs, in his speech of acceptance, dwelt upon the remarkable improvements from the time he became interested in the industry, until the present time, when the new Johnson Centri oil burner was put into the field, and how the home owner can now avail himself of a quality product without fear of being extravagant.

During the evening J. C. Johnson, president of the company, who was absent in the East, telephoned to extend his congratulations.

SAN FRANCISCO SHOWS GAIN

San Francisco led all large Pacific Coast cities in the percentage of increase in building during the first six months of this year, and was fifth among the cities of the United States that showed an increase, according to John B. Leonard, chief building inspector.

Comparing the first six months of 1930 and 1931, San Francisco was 104 per cent of last year, the figures being $12,393,561 in 1930 and $12,873,619 in 1931.

Other Pacific Coast cities showed as follows: Seattle, 41 per cent; Portland, 65 per cent; Los Angeles, 58 per cent; Oakland, 93 per cent; Long Beach, 41 per cent.

New Orleans stood first with 180 per cent, comparing the first six months of 1931 and 1930. Boston was second with 127 per cent; New York, third, with 116; Minneapolis, fourth with 110 per cent, and San Francisco, fifth, with 104 per cent.

Chicago had but 90 per cent; Detroit, 60 per cent; Kansas City, 78 per cent; Cincinnati, 63 per cent, and Buffalo, 94 per cent.

APARTMENT HOUSE INSULATION

With the excess of noise which accompanies modern metropolitan conditions, including apartment house living, the importance of sound deadening is rapidly gaining recognition, and its principles and methods are being studied.

Sound is transmitted from one region to another in three ways—by molecular conductivity, by diaphragmatic action, and by the leakage of air-borne sound waves through openings such as transoms, cracks and crevices, keyholes and so on.

Molecular conductivity is the transmission of sound from one molecule of a substance to another. It is illustrated by a common experience. A person may stand by a railroad track and hear no sound of a train. If he places his ear against the rail he will hear a train which may be a mile or more away. The sound is carried, in this case, by molecular conductivity.

This type of sound transmission occurs in buildings where a pipe or some similar equipment passes through a partition wall, or floor, from one portion of the building to another. The correction of such transmission is entirely a matter of design and construction. Care should be taken to avoid direct connection of any portion of a building for which sound insulation is desired, by heating pipes or similar equipment.

The prevention of leakage or air-borne sound through openings is, again, a matter of design and construction. Points to be guarded are transoms, air vents with more than one connection on one floor, actual cracks in walls, and cracks around doors and windows.

Diaphragmatic action is the most important phase of sound transmission so far as the study of sound insulation is concerned. At the same time, the effectiveness of treatment to overcome diaphragmatic action may be largely destroyed by neglect of the other two phases of the problem.

Sound is transmitted from its source in waves, extending outward in all directions, much as waves spread in a circle from a stone thrown in the water. When these sound waves strike against any surface, such as a partition wall, they set the entire wall in vibration. The vibration of the wall, in turn, transmits the sound waves to the air on the opposite side and the sound is heard, in modified form, in the room or region adjoining its point of origin.

In the process of transmission from air to wall and then to air again, a certain amount of the sound energy is absorbed and the intensity of the sound is reduced. The problem of sound insulation or sound deadening is to obtain a wall, ceiling and floor construction which will reduce this diaphragmatic transmission to a point where it is negligible. It is not necessary to eliminate transmission entirely. It is only necessary to re-

For any Concrete slab—SISALKRAFT

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protects AS IT CURES!

Sisalkraft is composed of crossed layers of sisal fibres imbedded in asphaltum and covered by layers of heavy kraft paper. The construction is exclusive. Made in rolls 3, 4, 5, 6 and 7 feet wide.

SPREAD on as soon as the concrete is set, Sisalkraft provides a waterproof cover which keeps in the moisture necessary for curing, and at the same time provides a protection that keeps out the dirt while the slab is being walked on, worked on, and otherwise abused. When the job is finished, Sisalkraft is rolled up, taking with it all the dirt, dust, oil and grease stains . . . leaving only a clean, hard, dense concrete surface. It is a simple, trouble-free method of handling concrete curing . . . far more economical than for any other way of securing comparable results.

Architects and contractors recommend Sisalkraft because they know it has adequate strength and toughness. Its non-elastic sisal fibres imbedded in asphalt and covered with heavy kraft paper make it practically wearproof. Sisalkraft is not affected by the weather . . . it remains pliable in winter and does not get sticky in summer. This tough, rugged paper is clean and easy to handle, and is applied with ease, under all conditions.

Get a sample of Sisalkraft from your nearest dealer. Tear it clear across . . . give it every test . . . examine its reenforced construction. See for yourself why Sisalkraft has no equal as a protective paper . . . and why it is really "more than a building paper."

Write for illustrated folder on the protection of new concrete. It describes this economical method of producing better jobs.

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duce the intensity to a level where it is masked by ordinary sounds in the room which is to be insulated.

As already stated, a certain amount of sound energy is absorbed in passing through the wall. The amount so absorbed depends upon the construction and materials of which the wall is built. Certain materials absorb more of the sound energy than others, and on this fact is based the claims of sound deadening value which are made by most of the manufactures of thermal insulating materials. Under certain conditions the sound absorption of a well-built and thermally insulated wall is ample for all practical purposes. Under other conditions a greater degree of sound deadening is required.—*American Builder and Building Age.*

WRIGHT'S NEW BOOK

In his new book, "Modern Architecture," Frank Lloyd Wright, peering into the future, has a different vision of cities from that pictured by the English novelist, H. G. Wells, in his book, "When the Sleeper Awakes." Mr. Wells foresees the population concentrated in great cities with streets, one above the other, and the inhabitants flying to their work in the country in the morning and returning in the evening. Mr. Wright predicts that instead of an era of super-cities there will be an era of small cities and fewer skyscrapers. The cities will be places only for men to work. They will live in the great open spaces of the country, flying to the city in the morning and returning to the country in the evening.

758 FEDERAL BUILDING PROJECTS

Federal public building projects under the administration of the Treasury Department, totaling $300,000,000, are now under contract, according to reports made to President Hoover. A total of 758 building projects with an estimated cost of $453,000,000 have been authorized. Reports up to July 16 showed a total of 57 contracts completed at a total cost of $25,326,876. Contracts let but not completed aggregate 192 with an estimated cost of $135,637,366. Plans have been completed and contracts are being put through on 61 buildings with a total estimated cost of $44,249,800. Sites have been acquired and plans are being prepared for 192 buildings with a total estimated cost of $181,353,023. Sites have been acquired or are in negotiation for 100 projects to cost $32,301,841. Sites are being sought for 156 buildings estimated to cost $34,871,000.

THE FIVE-DAY WEEK

The five-day week has become general in the building trades in more than 60 cities, according to an analysis of reports on building conditions in 130 cities of the United States, gathered by Edward M. Craig, executive secretary of the National Association of Building Trades Employers. A year ago the five-day week was recognized in only 35 cities. It has now been established entirely, according to the reports, in Boston, Cleveland, Cincinnati, Elizabeth, N. J., Jersey City, Kansas City, New York, Pittsburgh, San Francisco, Springfield, Mass., St. Louis and Trenton, N. J. Mr. Craig states that representatives of the building trades contend that the five-day week reduces unemployment, but that builders, while recognizing the immediate results, are doubtful if it will prove an effective means of retrieving normalcy in the construction field. Mr. Craig's report indicates that approximately 65 to 70 per cent of the building trades workers of the country are still unemployed.

W. W. WURSTER HONORED

William Wilson Wurster, architect, San Francisco, has been proclaimed the winner of first prize in an annual competition sponsored by an Eastern magazine for the best designs in new five to seven-room houses. The winning home is one built in the Santa Cruz mountains for Mrs. Warren Gregory. It is a fascinating example of the simple, almost primitive early California ranch house. Further honors came to California architects with ten out of the entire sixteen awards granted to contestants from this State. Architects from thirty-five States competed.

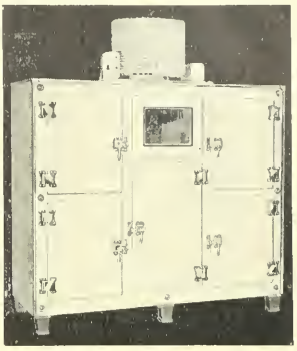
ACTION TAKEN ON PAY

Action has been taken by the State Board of Architectural Examiners to stop payment for services in connection with plans for the Brentwood-Deer Valley School. The county superintendent of schools at Martinez has been notified that payment to J. W. Williams for such services would be irregular inasmuch as Williams has violated the state architectural act in preparing plans and specifications for this school.

MR. MEYER HONORED

Frederick H. Meyer, Regional Director, A. I. A., has been made chairman of a San Francisco Chamber of Commerce committee to study the subway problem. Mr. Meyer, who was recently re-elected as a director of the Chamber of Commerce, is also chairman of its bridge and highway committee.

GENERAL ELECTRIC
COMMERCIAL REFRIGERATOR



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BUILDING CODE REQUIREMENTS

With a provision requiring plans for buildings costing over a certain sum to be drawn by licensed architects eliminated, an agreement on the proposed new uniform building code for the city of San Diego has been reached, and the final draft is being prepared by the city attorney on instructions from the city council. Controversy over the ordinance centered largely around the provision relating to licensed architects. "It was claimed the small home owner would be compelled to employ an architect in order to obtain a building permit," said John Siebert, architect member of the building code committee, in a statement to the Daily Transcript. "This was only half truth," he continued." A section drawing the line at $5000 was brought to the committee, not by an architect, but by a city official. The architects themselves raised this limit to $7500, then $10,000 and finally agreed to eliminate it entirely; so that this particular point was not at issue at all when the ordinance was presented to the council.

"In passing I wish to point out that Sacramento has a $10,000 limit. Chicago $15,000 and in the city of New York buildings of the multiple dwelling type, irrespective of cost, must be designed by an architect licensed by the state. The New York law was attacked as being unconstitutional, class legislation, depriving certain persons of their means of livelihood, serving no useful purposes, setting up a monopoly, etc., etc.; the identical objections raised here. The fight was carried through the state courts and finally to the U. S. Supreme Court. In every instance, and our friends might do well to ponder on this, the law was fully sustained, causing the man in whose name the fight was waged to take his examination and obtain his license to practice architecture.

"The restrictions in the ordinance as presented and which, with but slight modifications, are in it as passed, name certain structural limitations which, when exceeded must be designed by an architect or structural engineer. A veritable mountain has been made of this mole hill, thereby displaying a woeful lack of familiarity on the part of the objectors with the building ordinance under which we have been working since 1922. If our friends will kindly read Section 29 of the old ordinance they will learn that the present one differs only in that it is specific where the old one was general.

"No proponent of the new ordinance ever claimed that the state building laws carried a provision, 'requiring an architect to draw home plans,' as set forth in some of the newspaper headlines. The mandatory requirements for an architect or structural engineer are for certain structural features only, and do not affect the making of the general plans."

"The cost of building would be increased, it was claimed. For a $3000 dwelling the increase would be, according to City Manager Gregory and Chief Building Inspector Knecht, $20 to $35. Surely not an exhorbitant sum when considered in the light of fire termite and fungus protection. On the larger commercial structures the cost would actually be less. This matter was so thoroughly aired at the hearing that it ought to rest in peace."

BUILDING OFFICIALS CONFERENCE

Building code development and enforcement have been stressed by the Pacific Coast Building Officials Conference in the program for its tenth annual meeting to be held at Berkeley, October 5 to 10, inclusive, with an attendance of city building inspectors, building material men and others connected with the building industry. Program features announced by the president, S. P. Koch, chief building inspector of Berkeley, include papers on subjects of practical everyday interest, breakfast discussions dealing with problems of the building inspector, and committee work on code maintenance.

The most important achievement of the Pacific Coast Building Officials' Conference has been the preparation and publication of the Uniform Building Code for the use of interested cities. Mr. Koch states that since 1927, when the code was first published, it has been adopted in full as the building ordinance of 100 cities and towns and has been used by numerous others as part or as a basis of revising existing building laws.

Larger cities that have adopted the code include Alameda, Berkeley, Fresno, Long Beach, Pasadena, Riverside, Sacramento, San Bernardino and San Jose, Calif.; Everett and Olympic, Wash.; Salem and Eugene, Ore.; Austin, Dallas and Houston, Tex.; Tucson, Ariz.; Grand Forks, N. D.; Helena, Mont.; Albuquerque, N. M.; Birmingham, Ala., and Utica, N. Y.

At each annual convention the code is reviewed and proposed changes discussed and recommended with the object of keeping the provisions up to date. At this year's convention nearly two days' time will be devoted to code maintenance work. Two new chapters will be considered, one concerning termite and fungus control, the other dealing with licensing contractors. The first mentioned is being prepared by the Termite Investi-

Estimator's Guide

Giving Cost of Building Materials, Wage Scale, Etc.

Amounts quoted are figuring prices and are made up from average quotations furnished by material houses to three leading contracting firms of San Francisco.

This month—Note the raise in prices of rock, sand and gravel in San Mateo County. Lower prices for hollow tile, painting, hardwood floors.

All prices and wages quoted are for San Francisco and the Bay District. There may be slight fluctuation of prices in the interior and southern part of the state. Freight cartage, at least, must be added in figuring country work.

Overtime in wage scale should be credited with time and a half, Sunday and holidays double.

Bond—1½% amount of contract.

Brickwork—
Common, $31 to $36 per 1000 laid, (according to class of work).
Face, $70 to $90 per 1000 laid, (according to class of work).
Brick Steps, using pressed brick, $.90 lin. ft.
Brick Walls, using pressed brick on edge, 60c sq. ft. (Foundations extra.)
Brick Veneer on frame buildings, $.80 sq. ft.
Common, f. o. b. cars, $12.50 plus cartage.
Face, f. o. b. cars, $45.00 per 1000, carload lots.

HOLLOW TILE FIREPROOFING (f.o.b. job)

3x12x12 in.	$ 68.00 per M
4x12x12 in.	76.50 per M
6x12x12 in.	105.00 per M
8x12x12 in.	170.00 per M

HOLLOW BUILDING TILE (f.o.b. job) carload lots).

8x12x5½	$76.50
6x12x5½	59.50

Composition Floors — 18c to 30c per sq. ft. In large quantities, 18c per sq. ft. laid.
Durallex Floor—23c to 30c sq. ft.
Rubber Tile—55c per sq. ft.
Terazzo Floors—50c to 60c per sq. ft.
Terazzo Steps—$1.50 lin. ft.
Mosaic Floors—80c per sq. ft.

Concrete Work (material at San Francisco bunkers) — Quotations below 2000 lbs. to the ton.

No. 3 rock, at bunkers	$1.65 per ton
No. 4 rock, at bunkers	1.65 per ton
Eliot pea gravel, at bnkrs.	1.75 per ton
Washed gravel, at bunkrs	1.75 per ton
Eliott top gravel, at bnkrs.	1.75 per ton
City gravel, at bunkers	1.40 per ton
River sand, at bunkers	1.50 per ton
Delivered bank sand	1.10 cu yd.

Note—Above prices are subject to discount of 10c per ton on invoices paid on or before the 15th of month, following delivery.

SAND
Del Monte, $1.75 to $3.00 per ton.
Fan Shell Beach (car lots, f. o. b. Lake Majella), $2.75 to $4.00 per ton.
Cement, $2.24 per bbl. in paper sks.
Cement (f.o.b. Job, S. F.) $2.44 per bbl.
Cement (f.o.b. Job, Oak.), $2.64 per per bbl.
Rebate of 10 cents bbl. cash in 15 days.
Medusa "White" .....$ 8.50 per bbl.
Forms, Labors average 22.00 per M.
Average cost of concrete in place, exclusive of forms, 28c per cu. ft.
4-inch concrete basement floor.....13c to 14c per sq. ft.
4½ inch Concrete Basement floor .....13c to 14c per sq. ft.
2-inch rat-proofing....6½c per sq. ft.
Concrete Steps.....$1.10 per lin. ft.

Dampproofing and Waterproofing—
Two-coat work, 18c per yard.
Membrane waterproofing—4 layers of saturated felt, $5.00 per square.
Hot coating work, $1.80 per square.
Medusa Waterproofing, 15½c per bbl, San Francisco Warehouse.

Electric Wiring — $2.75 to $8.50 per outlet for conduit work (including switches).
Knob and tube average $2.25 to $5.00 per outlet, including switches.

Elevators—
Prices vary according to capacity, speed and type. Consult elevator companies. Average cost of installing an antomatic elevator in four-story building, $2450; direct automatic, abont $2400.

Excavation—
Sand, 40 cents; clay or shale, 90c per yard.
Teams, $10.00 per day.
Trucks, $20 to $25 per day.
Above figures are an average without water. Steam shovel work in large quantities, less; hard material, snch as rock, will run considerably more.

Fire Escapes—
Ten-foot balcony, with stairs, $65.00 per balcony.

Glass (consult with manufacturers)—
Double strength window glass, 15c per square foot.
Quartz Lite, 50c per square foot.
Plate 80c per square foot.
Art, $1.00 up per square foot.
Wire (for skylights), 27c per square foot.
Obscure glass, 25c square foot.
Note—Add extra for setting.

Heating—
Average, $1.60 per sq. ft. of radiation, according to conditions.

Iron—Cost of ornamental iron, cast iron, etc., depends on designs.

Lumber (prices delivered to bldg. site)
Common, $24.00 per M (average).
Common O. P. select, average, $28.00 per M.

1 x 6 No. 3—Form Lumber	$15.00 per M
1 x 4 No. 1 flooring VG	58.00 per M
1 x 4 No. 2 flooring	50.00 per M
1 x 4 No. 3 flooring	40.00 per M
1 x 6 No. 2 flooring	52.00 per M
1¼x4 and 6 No. 2 flooring	60.00 per M

Slash grain—

1 x 4 No. 2 flooring	$35.00 per M
1 x 4 No. 3 flooring	32.00 per M
No. 1 common run to T. & G.	28.00 per M
Lath	5.00 per M

Shingles (add cartage to prices quoted)—

Redwood, No. 1	$ .85 per bdle.
Redwood, No. 2	.65 per bdle.
Red Cedar	.85 per bdle.

Hardwood Flooring (delivered to building)—

13-16x3¼" T & G Maple	$105.00 M ft.
1 1-16x2¼" T & G Maple	135.00 M ft.
⅞x3½ sq. edge Maple	122.50 M ft.

	13-16x2¼" T&G	¾x2" T&G	5-16x2" Sq.Ed.
Clr. Qtd. Oak	$200.00 M	$145.00 M	$168 M
Sel. Qtd. Oak	130.00 M	107.00 M	121 M
Clr. Pla. Oak	125.00 M	95.00 M	103 M
Sel. Pla. Oak	112.00 M	70.00 M	87 M
Clear Maple	127.00 M	88.00 M	
Laying & Finishing	16c ft.	15c ft.	13c ft.

Wage—Floor layers, $9.00 per day.

Building Paper—

1 ply per 1000 ft. roll	$2.80
2 ply per 1000 ft. roll	4.20
3 ply per 1000 ft. roll	6.50
Sisalkraft, 500 ft. roll	5.50
Sash cord com. No. 7	$1.00 per 100 ft.
Sash cord com. No. 8	1.10 per 100 ft.
Sash cord spot No. 7	1.60 per 100 ft.
Sash cord spot No. 8	1.90 per 100 ft.

Sash weights cast iron, $45.00 ton
Nails, $2.85 base.
Belgian nails, $2.60 base.

Millwork—
O. P. $75.00 per 1000. R. W., $80.00 per 1000 (delivered).
Double hung box window frames, average, with trim, $5.00 and up. each.
Doors, including trim (single panel, 1¾ in. Oregon pine) $6.00 and up, each.
Doors, including trim (five panel, 1¾ in. Oregon pine) $5.75 each.
Screen doors, $3.50 each.
Patent screen windows, 20c a sq. ft.
Cases for kitchen pantries seven ft. high, per lineal ft., $4.25 each.
Dining room cases, $5.50 per lineal foot.
Labor—Rough carpentry, warehouse heavy framing (average), $11.00 per M.
For smaller work, average, $22 to $30 per 1000.

Marble—(Not set), add 50c to 65c per ft. for setting.

Alaska	$1.40 sq. ft.
Columbia	1.40 sq. ft.
Golden Vein Yule Colo.	1.70 sq. ft.
Pink Lepanto	1.50 sq. ft.
Italian	1.75 sq. ft.

NOTE — Above quotations are for ¾ inch wainscot in large slabs f.o.b. factory. Prices on all other classes of work should be obtained from the manufacturers.

Floor Tile—Set in place.

Verde Antique	$2.50 sq. ft.
Verde Antique	3.00 sq. ft.
Tennessee	1.50 sq. ft.
Alaska	1.35 sq. ft.
Columbia	1.45 sq. ft.
Yule Colorado	1.45 sq. ft.
Travertine	1.60 sq. ft
Tennessee	1.70 sq. ft.

Painting—

Two-coat work	27c per yard
Three-coat work	36c per yard
Cold Water Painting	8c per yard
Whitewashing	4c per yard

Turpentine, 85c per gal, in cans and 75c per gal. in drums.
Raw Linseed Oil—$.89 gal. in bbls.
Boiled Linseed Oil—$.92 gal. in bbls.
Medusa Portland Cement Paint, 20c per lb.

Carter or Dutch Boy White Lead in Oil (in steel kegs).

	Per Lb.
1 ton lots, 100 lbs. net weight	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb. lots	12½

Dutch Boy Dry Red Lead and Litharge (in steel kegs).

1 ton lots, 100 lb. kegs, net wt.	11¾c
500 lb. and less than 1 ton lots	12c
Less than 500 lb lots	12½c

Red Lead in Oil (in steel kegs)

1 ton lots, 100 lb. kegs, net wt.	13¼c
500 lb. and less than 1 ton lots	13½c
Less than 500 lb. lots	14c

Note—Accessibility and conditions cause wide variance of costs.

Patent Chimneys—

6-inch	$1.00 lineal foot
8-inch	1.50 lineal foot
10-inch	1.85 lineal foot
12-inch	2.10 lineal foot

Pipe Casings — 12" long (average), $8.00 each. Each additional inch 10c.

Plastering—Interior—

	Yard
1 coat, brown mortar only, wood lath	$0.36
2 coats, lime mortar hard finish, wood lath	.45
2 coats, hard wall plaster, wood lath	.50
3 coats, metal lath and plaster	.90
Keene cement on metal lath	1.10
Ceilings with ¾ hot roll channels metal lath	.65
Ceilings with ¾ hot roll channels metal lath plastered	1.30
Shingle partition ¾ channel lath 1 side	.60
Single partition ¾ channel lath 2 sides 2 inches thick	2.00
4-inch double partition ¾ channel lath 2 sides	1.20
4-inch double partition ¾ channel lath 2 sides plastered	2.25

Plastering—Exterior—

	Yard
2 coats cement finish, brick or concrete wall	$ .90
2 coats Atlas cement, brick or concrete wall	1.15
3 coats cement finish No. 18 gauge wire mesh	1.60
3 coats Medusa finish No. 18 gauge wire mesh	2.90

Wood lath, $4.00 per 1000.

2.5-lb. metal lath (dipped)	.15
2.5-lb. metal lath (galvanized)	.18
3.4-lb. metal lath (dipped)	.20
3.4-lb. metal lath (galvanized)	.25

¾-inch hot roll channels, $45 per ton.
Hardwall plaster, $15.40 ton; $12.95 in paper sacks (rebate 15c sack).
Finish plaster, $16.40 ton; in paper sacks, Dealer's commission, $1.00 off above quotations.
$13.85 (rebate 10c sack).
Lime, f.o.b. warehouse, $2.25bbl.; cars, $2.15
Lime, bulk (ton 2000 lbs.), $16.00 ton.
Wall Board 5 ply, $43.00 per M.
Hydrate Lime, $19.50 ton.

Composition Stucco—$1.35 to $1.75 per sq. yard (applied).

Plumbing—

From $58.00 per fixture up, according to grade, quantity and runs.

Roofing—

"Standard" tar and gravel, $5.00 per square for 30 squares or over.
Less than 30 squares, $5.25 per sq.
Tile, $17.00 to $30.00 per square.
Redwood Shingles, $11.00 per square in place.
Cedar Shingles, $10 sq. in place.
Recoat, with Gravel, $3.00 per sq.

Sheet Metal—

Windows—Metal, $1.80 a sq. foot.
Fire doors (average), including hardware, $2.00 per sq. ft.

Skylights—

Copper, $1.00 sq. ft. (not glazed).
Galvanized iron, 25c sq. ft. (not glazed).

Stone—

Granite, average, $6.00 sq. foot in place.
Sandstone, average Blue, $3.50; Boise, $2.60 sq. ft. in place.
Indiana Limestone, $2.60 per sq. ft. in place.

Store Fronts—

Copper sash bars for store fronts, corner, center and around sides, will average 70c per lineal foot.
Note—Consult with agents.

Steel Structural—$88 per ton (erected). This quotation is an average for comparatively small quantities.
Light truss work higher; plain beam and column work in large quantities, less.
Cost of steel for average building (erected), $85.00 to $90.00 per ton.

1931 WAGE SCHEDULE FOR SAN FRANCISCO BUILDING TRADES

Fixed by the Impartial Wage Board
Indorsed by Architects, General and Sub-Contractors, Municipal, State and Federal Governments.

Craft	Journeymen Mechanics
Asbestos workers	$ 8.00
Bricklayers	11.00
Bricklayers' bodcarriers	7.00
Cabinet workers, (shop)	7.50
Cabinet workers, (outside)	9.00
Carpenters	9.00
Cement finishers	9.00
Electric workers	9.00
Electrical fixture hangers	8.00
Elevator constructors	10.00
Elevator helpers	7.00
Engineers, portable and hoisting	9.00
Glass workers	8.50
Hardwood floormen	9.00
Housemovers	8.00
Housesmiths, arch. iron, skilled all branches	9.00
Housesmiths, arch. iron, not skilled all branches	8.00
Housesmiths, reinforced concrete, or rodmen	9.00
Iron workers (bridge & structural) including eogineers	11.00
Laborers, building (6-day week)	5.50
Lathers, channel iron	10.00
*Lathers, all other	8.50
Marble setters	10.00
Marble helpers	6.00
Marble cutters and copers	8.00
Marble bed rubbers	7.50
Marble polishers and finishers	7.00
Millmen, planing mill department	7.00
Millmen, sash and door	6.00
Millwrights	8.00
Model makers	10.00
Model casters	9.00
Mosaic and Terrazzo workers	9.00
Mosaic and Terrazzo helpers	6.00
Painters	9.00
Painters, varnishers and polishers (shop)	7.50
Painters, varnishers and polishers (outside)	9.00
Pile drivers and wharf builders	9.00
Pile drivers engineers	10.00
Plasterers	11.00
Plasterers' bodcarriers	7.50
Plumbers	10.00
Roofers, composition	8.00
Roofers, all others	8.00
Sheet metal workers	9.00
Sprinkler fitters	10.00
Steam fitters	10.00
Stair builders	9.00
Stone cutters, soft and granite	8.50
Stone setters, soft and granite	9.00
Stone carvers	8.50
Stone derrickmen	9.00
Tile setters	10.00
Tile helpers	6.00
Auto truck drivers, less than 2500 lbs.	5.50
Auto truck drivers, 2500 to 4500 lbs.	6.00
Auto truck drivers, 4500 to 6500 lbs.	6.50
Auto truck drivers, 6500 lbs. and over	7.00
General teamsters, 1 horse	5.50
General teamsters, 2 horses	6.00
General teamsters, 4 horses	6.50
Plow teamsters, 4 horses	6.50
Scraper teamsters, 2 horses	6.00
Scraper teamsters, 4 horses	6.00

*On wood lath if piece rates are paid they shall be not less than such an amount as will guarantee, on an average day's production of 1600 lath, the day wage set forth.

Eight hours shall constitute a day's work for all Crafts except as otherwise noted.

Plasterer's bodcarriers, bricklayers' bodcarriers, roofers, laborers, and engineers, portable and hoisting, shall start 15 minutes before other workmen, both at morning and noon.

Five and one-half days, consisting of eight hours on Monday to Friday inclusive, and four hours on Saturday forenoon shall constitute a week's work.

Overtime shall be paid as follows: For the first four hours after the first eight hours, time and one-half. All time thereafter shall be paid double time. Saturday afternoon (except laborers), Sundays from 12 midnight Friday, and Holidays from 12 midnight of the preceding day shall be paid double time. On Saturday laborers, building, shall be paid straight time.

Where two shifts are worked in any twenty-four hours shift time shall be straight time. Where three shifts are worked, eight hours pay shall be paid for seven hours on the second and third shifts.

All work shall regularly be performed between the hours of 8 A. M. and 5 P. M., provided, that in emergencies or where premises cannot be vacated for work by mechanics until the close of business, men then reporting for work shall work at straight time; but any work performed after midnight shall be paid time and one-half except on Saturdays, Sundays, and holidays, when double time shall be paid.

Recognized holidays to be New Year's Day, Decoration Day, Fourth of July, Labor Day, Admission Day, Thanksgiving Day and Christmas Day.

Men ordered to report for work, for whom no employment is provided, shall be entitled to two hours pay.

gations Committee of California from data resulting from several years of study, research and experimentation. An electrical sign and billboard ordinance is also to be presented.

Papers scheduled include the following, among others: "Building Material Specifications and Tests as They Affect the Building Inspector," by Frank L. Howard, testing engineer, Smith-Emery Co., Los Angeles; "Fire Zones From an Underwriter's Standpoint," by L. S. Bush, chief engineer, Board of Fire Underwriters of the Pacific; "Condemnation of Buildings," by C. D. Wailes, Jr., chief building inspector, Long Beach, Calif.; "Model Termite Control Ordinances," by Earl E. Bowe, executive secretary, Termite Investigations Committee of California, and "Construction for the Use of Gas in the Modern Home," by H. C. Ross, engineer of utilization, Pacific Gas & Electric Co., San Francisco.

BAN INCORPORATED ARCHITECTS

An incorporated association of architects is incompetent to contract with the city of Denver for architectural services in connection with the construction of a municipal building, according to a ruling of the Supreme Court of Colorado, which has held void and of no effect such a contract with the Allied Architects Association.

The court also determined that such an association is incapable, under the Colorado law, of becoming a licensed architect.

The contention of the association and the city that the city may contract for the services of an architect without complying with the requirement that bids must be called for before a contract can be entered into, was rejected by the court.

Concerning the right of a corporation to engage in the practice of architecture, the court found that the legislature has not permitted the granting of licenses to corporations. The fact that all members of the association were licensed was said not to permit the licensing of the association.

BRUNNIER NEW PRESIDENT

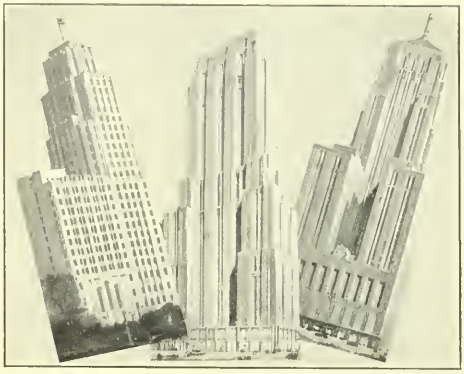
The following are the new officers of the California State Board of Registration for Civil Engineers: President, H. J. Brunnier, San Francisco; Vice-President, Donald M. Baker, Los Angeles; Secretary, Albert Givan, Sacramento. Assistant Secretary, Ralph J. Reed, Los Angeles.

AUTO DISPLAY ROOM

Leonard H. Ford, architect, of Oakland, has completed plans for an automobile display room building at Livermore for H. Anderson.

HAZARD

INSULATION WILL DEFY THE PASSING YEARS



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FEDERAL POLICY CHALLENGED

The charge of Ferry K. Heath, Assistant Secretary of the Treasury, that Government architects are more satisfactory than private architects in the present emergency lacks proof, Robert D. Kohn of New York, president of the American Institute of Architects, declared in a statement challenging the wisdom of the Federal building policy.

Mr. Heath's discovery that the profession which created the architecture of America, notable throughout the world, is inefficient and slow, cannot be taken seriously, according to Mr. Kohn, who pointed out that private architects are good enough for the nation's greatest institutions and corporations, as well as for Secretary Mellon, who entrusted them with the monumental public buildings in the "Triangle" in Washington.

Declaring that Mr. Heath's judgment was too hasty, and that in the existing situation the time has been too short to estimate the relative worth of the Government architect and the private practitioner, Mr. Kohn asserted that "the Government will speed its emergency public works program if it engages more and more of the experienced and able architects of the country."

Federal architecture is endangered by the inability of new ideas and new impulses to make headway against the fixed procedure of the Treasury Department staff, Mr. Kohn holds. To this condition, engendering a tendency toward "stereotyped forms," he attributed the main delay in Federal building operations. In the interest of speed and of the highest standards of enduring architecture, he demanded that "the United States Government enlarge, not restrict, the hiring of private architects.

"The Keyes-Elliott bill which authorized the employment of private architects for Federal building design, was passed in 1930," Mr. Kohn's statement said. "Is it possible that within this year such a definite conclusion on the value of their services has been reached by the Treasury Department?

"Comparatively few contracts have been awarded as yet on plans which they have prepared, and certainly few of the buildings thus contracted for have advanced very far, and none can have been completed. It would therefore seem impossible to reach a conclusion based on any actual experience regarding the results of the employment of architects in private practice.

"We wonder how anybody who knows Washington can take this seriously. After a brief trial they already know that the employees of their Bureau of Architecture are better and quicker

than some of the best architects of the United States. How can they know this?

"It may be that the method by which the outside architects were chosen by the Treasury Department did not result in every case in the best results. We do know that some of the men thus employed are very excellent and capable practitioners whose reputation for ability is founded on a very broad experience and admirable results. There may be others not so wisely chosen.

"But, on the whole, it must be recognized that the men who designed the modern buildings in a hundred cities, and who have made the reputation of progress in American architecture notable throughout the world, cannot have been inefficient and slow. The great industries and business corporations of the United States do not patronize bureaus of architecture.

"From coast to coast the advance in building design which has distinguished the last two decades is the result of the ability and thoroughness of the architects. How can they be less able or less expeditious than the employees of the Bureau of Architecture of the Treasury Department?

"The answer may be that the Treasury Department staff has developed a certain way of doing things, and the system thus established does not easily adjust itself to the architects who have been called in from outside to work with the Department. There is probably the usual kind of governmental procedure established by long custom, involving methods by which everything must be done, and which really cause the main delay.

"New ideas and new impulses make slow headway against such fixtures. But it is just that which endangers the future of our Federal architecture. It ought not to be allowed to emanate from a bureau. More and more, for small work in the smaller communities as well as for the important monumental structures, the Government's buildings should be designed by outside architects in constant touch with the progress being made in architecture and building throughout the country.

"And the Office of the Supervising Architect of the Treasury should be reorganized so as to be itself efficient in arranging for the information necessary to make it possible for the outside professional men to attack the jobs assigned to them as they would, and do daily, for their very exacting clients in private practice.

"In a recent issue of 'The Federal Architect' (which appears to be a house organ of the Supervising Architect's Office) there has been some criticism of the architects of the country. Perhaps it was the object of this publication to show that

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September 4, 1931

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the work of the Supervising Architect's Office is superior to that produced by architects in general practice throughout the country.

"The position of the American Institute of Architects is that it should work for the improvement of our architecture, but it believes that the tendency of architectural design in governmental bureaus is towards stereotyped forms.

"The architects maintain that this will not happen if Federal buildings in every locality are designed by local architects who are familiar with local needs, climatic conditions, and informed on the available materials. And the architects believe that this principle applies to the less important structures built in small cities as it does to important monumental ones.

"But, aside from this desirable and permanent change, the Government will speed its emergency public works program if it engages more and more of the experienced and able architects of the country.

"After all, architects should let their work speak for them. What the public thinks of them is indicated by their employment in a vast field of construction enterprises. There has been a consistent advance in design and in quality from year to year, and all of it is the result of a profession working freely and in constant contact with changing conditions.

"That this quality of performance has impressed itself on Washington as well is evident from the fact that the Secretary of the Treasury himself has left for his administration a monument in the form of the great public buildings in the 'Triangle' in Washington. The majority of these buildings were designed by and are being built under the supervision of architects in private practice, chosen by Mr. Mellon after careful consideration and with the help of an advisory committee of architects."

STEEL LOCKER COMPANY CHANGES

Announcement is made by the Durabilt Steel Locker Company of the following changes in the official personnel of the company: President and General Manager, E. D. Kaser; Vice-President, V. C. Kaser; Treasurer and Sales Manager, H. S. Hatch; Secretary, W. H. Graham.

PERSONAL

Masten and Hurd, architects, have moved from the Shreve Building, San Francisco, to 233 Post Street, in the same office with Frederick H. Reimers and William I. Garren.

MORE QUAKE DATA NEEDED

By N. H. Hecht*

THE earthquake is always of absorbing interest to the seismologist. We are rapidly approaching a condition, however, in which the heretofore sporadic interest of the averaage citizen is being converted into continuous interest, in many parts of the earth, and accordingly the engineer and architect in the regions concerned are beginning to be quite as much interested as the seismologist.

The two fields of activity with regard to earthquakes—geophysics and engineering—while having different purposes, are not independent, and results in either field may throw light on the problems of the other. Prominent engineers have begun to criticize the seismologist for not giving them the information that they need, and the time now seems ripe for closer co-ordination of activity.

Earthquakes are no more numerous or more severe than in the past but the earth is so much more intensively occupied that the risk of important damage is greater than ever before and is constantly increasing.

From the viewpoint of the geophysicist, earthquake investigation is for the purpose of learning all that there is to know about the nature of the earthquake itself as a physical phenomenon and the transmission of waves and incidentally the nature of the transmitting medium, with consequent information about the interior of the earth which is obtainable in no other way.

From the viewpoint of the engineer the important factors are the probable occurrence of a severe earthquake in a given locality, the effect of earthquakes on structures, and their design to resist or reduce destruction by earthquakes. There is particular interest in regard to the large structures which modern civilization makes necessary, such as office buildings, factories, bridges, high dams and other structures.

For a number of years engineers have been gathering information regarding earthquake effects on structures and to some extent are basing design of structures on the observed facts. They are also at Stanford University operating a large shaking table on which types of structures and models of buildings are tested under conditions simulating earthquakes. With all this they feel the need of more exact knowledge in regard to motions of strong earthquakes, a demand which the seismologists have not yet met.

*Chief of Division of Terrestrial Magnetism and Seismology, Coast and Geodetic Survey, Department of Commerce. Authorized summary of address delivered before Franklin Institute of Philadelphia, April 2, 1931, and published in United States Daily.

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The reason for this is a practical one. Seismologists, like engineers, have to be practical. Severe earthquakes are of relatively infrequent occurrence at any given place, even where great damage has occurred in the past. Instruments suited to record strong motions will not record weak ones. Accordingly, in order that we may have material with which to work, the instruments must be able to record earthquake waves coming from a considerable distance, but instruments able to do this will not record strong motion.

The valuable information which the seismologist has been able to obtain about the interior of the earth has been accompanied by the introduction of many perplexing problems. It is, therefore, not surprising that much energy has gone into perfecting instruments and methods for recording distant earthquakes. In fact, the principal problems in this field are well on the way to solution though we may continue to expect new instruments and methods from time to time.

The seismologist, in developing these instruments, has acquired much information which is useful for the design of the more rugged and relatively insensitive instruments which must be used to record strong motion. His knowledge of wave transmission will also be essential to the correlation of the information regarding strong motions when available. It is for the engineer to state exactly what information he needs and to make use of it after it has been obtained. The seismologist by his previous accomplishment has justified the confidence of the engineer in his ability to solve the problems.

This accomplishment has included both instrumental development and the development of theories to explain the complexities of the records in terms of transmission through the earth and consequently reasonable deductions about the physical conditions of the otherwise unexplored medium through which the waves pass—the interior of the earth.

The working tool of the seismologist is the seismometer. The present efficient instruments are the result of attempts during the last 50 years, and especially during the last 25 years, to get truer records of the earth movements. Out of the many efforts to solve this problem a few features of design have survived and are embodied in existing instruments.

When we come to the central region of strong earthquakes, we find conditions of great complexity. Observations by adequate instruments are so few that we are driven to study earthquake

effects as the best guide to what has occurred, a method obviously defective. Men under mental stress are not capable of making observations with the impartial attitude of a machine. However, invaluable information is obtained from such reports and when a phenomenon is reported by many witnesses which seem to conflict with the known principles of earthquake wave behavior, a careful investigation should be made.

As an illustration, in regions of deep alluvium or of a moderately thick layer of soft material, earthquake waves have been seen to pass over the ground in a manner similar to the ground swell of the ocean. In the case of the California earthquake of 1906, 16 persons in as many different localities reported seeing such waves. Similar reports were made in the case of the Porto Rican earthquake of 1918 and there have been many other examples.

At first thought this might seem not unreasonable, but it must be remembered that while earthquake waves travel at least two miles per second, the ocean swell rarely exceeds 65 feet per second. It is therefore difficult to comprehend how we can see the waves pass along. Crests of such waves have been reported as two feet above the troughs, but even if the phenomenon is genuine, the probability is that the height does not exceed six inches.

It will be interesting to learn the facts by instrumental observation. In some cases a series of parallel cracks in the earth have been found parallel to the crest of the reported waves. Even then the waves may be an illusion due to the effect of the earthquake itself on the observer.

Railroad tracks sometimes afford evidence that strong forces have been at work. In some cases the distortion appears to have been due to shortening, but it is not clear how this shortening has been brought about. No effort has been made to analyze the forces. The directions taken by falling monuments in cemeteries bear witness to the variations in the forces at work. Often the majority will fall in the same direction, but the remainder will fall at an angle with or even at right angles to the prevailing direction. There are many striking examples of turning of a monument on its base or even of different parts of a monument by different amounts but without fall.

The effects on buildings are of interest. In many cases the destruction is so great or the failure so varied that they are not instructive. Much can be learned, however, from study of selected details. It is, however, very difficult to

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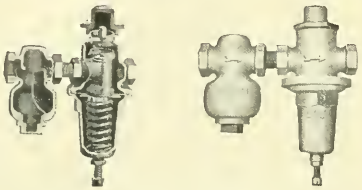

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deduce the actual earth movements in this way because of the complexity and variation in the stress applied and our lack of knowledge as to just what part of the activity produced given results. Even then much can be learned and a large part of existing effort to prevent damage from earthquakes is obtained from the study of damaged buildings. Much work has been done in Japan by the Earthquake Research Institute and other organizations and buildings are being erected which are expected to resist destruction or even serious damage.

The New Zealand earthquake has shown, as have many others, that certain types of earthquake damage are inevitable. Types of construction matter little if the building is directly over a fault line with horizontal or vertical slipping or in the path of a great landslide. If a great tidal wave occurs buildings in its path will be swept away. However, for most earthquakes the number of buildings exposed to these special hazards is not a large proportion and the most common needs are ability to resist strong shocks, and fire prevention. In both these fields there are important possibilities.

Engineers are beginning to agree that major structures should be designed with regard to earthquake stress if the history of the region indicates that they are likely to be subjected to such

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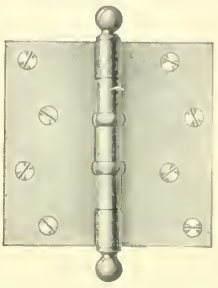

stress. They are recognizing the lack of information and are demanding that more accurate information be obtained.

In view of these statements, it is of particular interest that Congress, in making provision for the work of the next fiscal year, has made provision for the start of this work and it should be in effective operation by the end of 1931. I am about to proceed to the Pacific Coast to consult with various organizations and develop an adequate plan. In starting the work in that region, it does not mean that this is the only region where strong earthquakes occur.

In fact, the most severe earthquakes in this country during the past five years have been in the East, but it is a region where earthquakes of severity have occurred in a number of localities, and therefore, with suitable distribution of instruments, earlier results may be anticipated than elsewhere. Furthermore, the demand for this work comes from that part of the country where a sentiment of wise preparedness for possible emergency is being developed.

The purpose is to install instruments capable of recording accurately strong earthquake motions in places where history indicates that there is probability of earthquake activity of some intensity. It is regrettable that such instruments

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were not installed in New Zealand last February when invaluable information could have been obtained. However, instruments of a satisfactory character were not in existence nor are they today, except for several types that have been developed in Japan, which are adapted to frequent strong activity.

In this country the Bureau of Standards, the Coast and Geodetic Survey, the Massachusetts Institute of Technology and the Earthquake Research Laboratory at Pasadena are all at work on the development of such instruments, and it is expected that satisfactory instruments, even if not of the ultimate type, will be available before the end of the present year.

If we know the acceleration, amplitude and period, other desired information can be deduced. The proposed instruments will be capable of recording accelerations up to at least 1/5 g. and simple devices will also be available which will record accelerations up to the value of g, though with no such complete record as for the instruments just mentioned. The instruments themselves will have to be safeguarded to resist destruction from earthquake.

The Japanese have added a type of investigation that they have found very useful. Even before the days of instrumental observation, as far back as 1793, the inhabitants of a coastal village noticed a sudden change in the sea bottom and assuming that it meant the arrival of a tidal wave they rushed to the hills. Nothing occurred for four hours. Then came a great earthquake and tidal wave.

This phenomenon has been observed to a lesser degree in other earthquakes and the natural assumption is that the surface of the earth tilts just before the earthquake. In four earthquakes the intervals have varied from a half to four and one-half hours. Recently instrumental observations have been made of the tilt of the ground which confirms the earlier observations and indicates that in Japan at least the tilting of the ground is significant.

This does not refer to local tilts due to temperature which the tilt compensation seismometer eliminates, but it is a long period tilting of the ground in regions subject to severe earthquakes with rapid tilting just before the earthquake. If it can be definitely established that this is common to all earthquakes in Japan, even when the amount is less than can be readily perceived, it may be possible to give an advance notice of a few hours which might be invaluable.

The Japanese have developed a tiltmeter and

another instrument for this purpose has been designed at the Bureau of Standards but has not yet been constructed. It is important to learn whether this phenomenon is peculiar to Japan or any other region where there is block faulting on a large scale, or whether the same thing will be observed in this country.

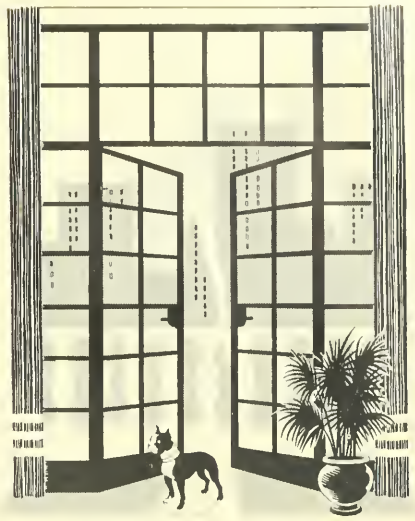
My purpose has been to show that a program of earthquake investigation is being developed which, when added to the already well-organized plan, will fill important gaps in present knowledge. Stress has been laid on fundamental principles, to emphasize that we are still in a stage when these are the all-important things. We are beginning to utilize the records to find out facts about the earth but there is great room for expansion in this field.

There are two great fields of investigation: That treating the earth as a whole or dealing with a substantial portion of its crust such as the area of the United States; and the local investigation as exemplified by the investigations in California under the auspices of the Carnegie Institution of Washington, the California universities and other organizations, by the investigations in the Mississippi Valley under the auspices of St. Louis University and the National Research Council and the plan of the Coast and Geodetic Survey for cooperative observations chiefly for the benefit of the engineer.

The studies with regard to the United States as a whole are carried on by the National Government through the Coast and Geodetic Survey with the cooperation of the Weather Bureau, the Geological Survey, Bureau of Standards and the National Research Council; the members of the Jesuit Seismological Association; the universities and colleges in different parts of the country. The eventual aim is to keep informed in regard to the elastic condition of the earth's crust.

"I see only two possible sources of leadership. The first is the Federal Government. The second is a privately-endowed institution directed by the master minds of the whole field. Of the two, I prefer the latter. My reasons are complicated, but perhaps I can summarize them in a single statement—that a Federal agency would scarcely be granted the freedom of initiative which it needs in order to function effectively in such a capacity. I believe, however, that if such an institution were created, the Government would continue to cooperate in the future as in the past.

"I therefore suggest the idea of a privately-endowed National Earthquake Institute as one of the goals of the indefinite future of siesmology."



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The Stedman Rubber Flooring Company have issued a new booklet entitled, "Modern Floors for Modern Homes." It contains colored plates of all the types of floors manufactured by this company, as well as notes on the floorings used in living, dining and bed rooms, stairways and halls. The booklet may be obtained from this firm at South Braintree, Massachusetts.

In the August issue a typographical error appeared in this column in the notice given to the new product of the American Radiator Company. The name is "Arco-Radiatherm" instead of "Arco-Radiather."

Robert W. Hunt Company of Chicago, announce the installation of a high powered X-Ray equipment which enables them to make examinations and determinations in the quality of engineering materials. This greatly enhances the value of the services rendered by this concern.

A memorandum received recently from the E. I. du Pont de Nemours Company, Wilmington, Delaware, describes the range of uses for their new product "Lithophone". It is used in the manufacture of all kinds of paint for exterior and interior, also in cold water paints, calcimines and plaster finishes.

The following interesting literature has been received from the General Electric Company, Schnectady, New York.

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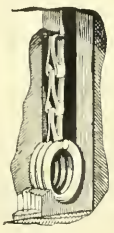

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A NEW IDEA FOR THEATER STAGE ILLUMINATION

By Dariel Fitzkee

I have something of exceptional interest this month.

There has been developed a new system of theater stage dimming control.

As is quite generally known, the control system commonly in use is based on the use of a variable resistance in series with a group of lamps. The resistance unit is known as a dimmer plate. Usually these are arranged on a switchboard so that they may be operated individually, or in groups on a common cross connecting mechanism.

The board itself is arranged so that all dimmers of one color are arranged in a row, with the other colors in each respective unit, such as the first border light, in a verticle row. Thus one row of lights may be brightened while the other is dimming.

When the Los Angeles Theater opened in that city early this year, there was a new system of control installed. This control was built and developed through the Westinghouse Company.

The new system of control uses a magnetic dimmer in series with the lamp circuits. The reactance of this dimmer is controlled by varying the direct current which saturates the iron core. This saturating current is supplied by a thermionic device which is controlled by a system of potention-

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meters located on the pilot switchboard. Compared to that of the lamp circuit, the current and voltage at the switchboard is quite small.

Among the many differences in the new equipment may be mentioned the considerable stage space saved, as the new board with its vacuum tube assembly on the rear, is about one-half the size of that necessary for the resistance type board. Also the physical power necessary for operating the device is much less than that required for moving the dimmer plates. This is particularly shown in handling a group of units at once.

The gang control on the resistance type is purely mechanical, whereas the gang control on the thermionic type is purely electrical.

There are several other differences in the operation of the new board, most of which go into the matter too technically for this present discussion.

However, the new system is an improved one, as far as I can see, for many reasons. I think that it is the first step in a radical change in the methods of lighting control. Whether the present thermionic system is the final form I cannot presage—probably not. How its cost compares with the older types I cannot say. Yet, a progressive architect should take the time to call in the engineers who can go into this matter fully.

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Among the new California laws affecting the construction industry which became effective August 14 was one relating to preference on public contracts and furnishing supplies. This was Assembly Bill No. 909 by Mr. Yost, now known as Chapter 632, statutes of 1931. This law is a new section in the Political Code, numbered 3236, and provides that county supervisors, school boards, city councils and other public boards and officers may in their discretion give preference in awarding contracts for public works, materials and supplies to California firms and products up to 5 per cent of the amount of the lowest bid offered by firms outside the state. Following is the text of the new law:

The people of the State of California do enact as follows:

Section 1. A new section is hereby added to the Political Code to be numbered 3236 and to read as follows:

3236. It shall be discretionary with all county boards of supervisors, school boards, city councils, and all other public officers, boards and commissioners, charged or which may in the future be charged under the law with the letting of contracts for public work, or with the construction of public bridges, buildings and other structures, or with the purchase of materials and supplies for any public use, to give such contracts and to purchase such materials and supplies from persons and concerns, manufacturing same in the State of California; provided, that the bids of such persons or concerns, or the prices quoted by them, shall not exceed by more than five per cent the lowest bids or prices quoted by persons and concerns manufacturing the same elsewhere, and when in their opinion the public good will in any way be served

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thereby; provided, however, that no goods and material shall be entitled to above preference in which the major portion of the work of manufacturing same shall be done outside the State of California.

SOUTHWEST ROAD SHOW

February 23, 24, 25, 26, 1932, are the dates for the Seventh Annual Southwest Road Show and School, Wichita, Kansas.

Each year this event assumes greater proportions and importance than in former years and no doubt this is primarily due to the fact that it has now come to be a duly accredited and well established institution throughout the Central and Southwest at which exhibitors record much direct and indirect business and from which the public in general and road building authorities in particular are educated in the latest approved methods of road construction and maintenance.

Nine states surrounding the Road Show and School had exhibits at the 1931 event; also the United States Bureau of Public Roads; American Association of State Highway Officials; Republic of Mexico, Colleges and Universities. Indications at this time point to a repetition of this for the 1932 School augmented by exhibits from other States, colleges and universities.

A MODERNISTIC CHURCH

Germany, Holland and America recently have built modernistic churches, but none of these ultra-modern places of worship is so strikingly simple in design as the new edifice recently completed in Prague, Czecho-Slovakia.

This church, says the *American Weekly*, is what architects call "daringly dignified." Its sheer, smooth walls are made of reinforced concrete and it is a creation of straight lines except for the end which houses the altar.

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This semi-circular part of the structure looks something like the cabin of a gigantic airship because of the eight long windows through which light is admitted not only to the altar, but to the entire auditorium of the church.

From this semi-circular section the auditorium stretches back in four cubicles of varying height and width. None of these portions of the building has, or needs, windows.

A sheer, stepped-back tower at the other end of the building is topped by a simple cross and by a four-sided block of modernistic design. This tower looks, except for its Christian symbol, like a small skyscraper. Here the clergy and their assistants of the church have their offices.

The interior of the church is as modernistic in appearance as the outside. The pews are as simple in line and arrangement as they can be and the walls are unornamented except for a few plaques and statues which are fashioned in the up-to-date spirit of the building.

It is difficult to imagine a more modernistic place of worship than Prague's newest church, but there are rumors that plans have been drawn for another Czecho-Slovakian church which will be an even more striking example of new-day architecture.

America's one modernistic church is in Tulsa, Oklahoma. It is the Boston Avenue Methodist Church. Architects from all over the world have come to Tulsa to study the design of this place of worship, which is notable for its skyscraper-like tower and its circular auditorium. Even the sculptural decorations of the edifice are carved in the modern manner.

The Tulsa church, for all its radical departure from the traditional architectural form of Christian churches, seems "old-fashioned" in comparison with the Prague edifice. Not all European architects approve of the church,

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but most of them admit that the structure looks like a church in spite of its radical simplicity and that it could not possibly be mistaken for a commercial building.

NORTHWEST ARCHITECTS ACTIVE

(From Pacific Builder & Engineer)

Third place in national competition in Class A contest of the Beaux Arts Institute of design was attained recently by John Graham, Jr., son of Architect John Graham, Dexter Horton Building, Seattle. Jack, as he is generally known, is spending his vacation at home after two years in the Department of Architecture at Yale University. The award leads to the granting of a medal by the Groupe Americaine of the Societie des Architects Diplomes par le Gouvernment. The presentation is to be made in New York on October 9. The prize recipient is a graduate of the University of Washington, class of 1929.

* * *

Open house was held on Tuesday, July 21, to celebrate the formal opening of the Loveless Studio Building, Broadway North and East Roy Street, Seattle. Arthur L. Loveless, architect, and his co-worker, Lester P. Fey, directed several hundred guests through the studio shops on the ground floor and the well-appointed studio apartments on the second floor.

* * *

Formulation of a Puget Sound regional policy is being discussed at meetings of the Tacoma Society of Architects, held every Monday noon at Rhodes Tea Room. Development of terminal facilities to handle products of the Columbia River Basin, increase in shipping lines and promotion of steel works and textile factories are some of the subjects studied in a plan to provide work for the building industry.

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John I. Mattson, graduate in architecture from the University of Washington, class of 1927, has opened an office at 566 Skinner Building, Seattle, where he will do some designing when he finds some spare time from his duties as teacher of architectural drawing at the Grover Cleveland High School, Seattle.

* * *

Honorary membership in Phi Omega, a fraternal society of students in the Department of Architectural Engineering at the State College of Washington, has been voted for Roland E. Borhek and George Gove, Tacoma architects. The action was taken by the students to show their appreciation of the healthy professional interest taken by the two recipients in the school's problems and activities.

* * *

Modernistic architecture as it is produced in Germany was being studied by Edward F. Pinneh, member of McClelland, Pinneh and Jones, Seattle architectural firm, according to the last letter sent the home office. After attending the International Rotary convention at Vienna, Austria, Mr. Pinneh viewed recent building developments in the last vestige of the Holy Roman Empire, and then turned his attention to Switzerland, Italy and France.

* * *

Water colors are the present subject of competition among three Tacoma draftsmen, Ralph Bishop, Edward Young and Stanley Nelson. One of the subjects treated is the Schooner Vigilante of Cappy Ricks' fame, which was seen berthed in Commencement Bay.

* * *

A series of articles explaining the services of architects has been appearing in Tacoma newspapers for several weeks. The duty of preparing the articles is being rotated among the architects of the city and all are reported to be enjoying the experience. The pur-

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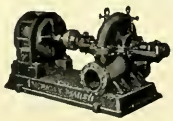
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pose is to remove the mystery surrounding the architect and his functions.

* * *

Shanley, Willson & Hugenin, Butte, Mont., architects, have closed their office at 111 North Montana Street (administration building of the Board of Education) and have established headquarters at the home of R. C. Hugenin, 1203 West Porphyry Street.

* * *

Ernst Kroner, Portland, has been named to succeed M. H. Whitehouse, also of Portland, to the Oregon Board of Architectural Examiners. Governor Meier made the appointment.

* * *

The Tacoma Society of Architects held their regular weekly meeting July 27 at Rhodes Brothers Tea Room. There were twelve present. Gaston C. Lance of the society spoke on modern building conditions, tracing the changes from the apprentice system in European countries to the present day where complicated machines are doing away with the skilled mechanic.

* * *

Victor N. J. Jones, Seattle architect who has been supervising store alterations at San Jose, California, for his firm, McClelland, Pinneh and Jones, returned home August 15 after spending several weeks in the southern city.

* * *

Max A. Van House, architect practicing in the Central Building, Seattle, decided that he needed more daylight. Therefore he is now occupying more commodious and brighter quarters in Room 449 after vacating Room 422.

* * *

J. G. Link, Inc., a firm long established in the practice of architecture in Billings and Miles City, Mont., opened an office at Medford, Oregon, in July. Mr. Link was commissioned to make the plans for the Jackson county courthouse at Medford, a $250,000 building.

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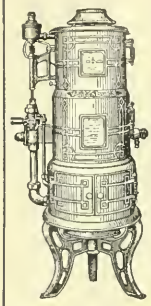

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(Concluded from Page 21)

tion of lack of drawings and specifications being responsible for beginning of actual construction.

"We and our former staffs of draftsmen, now unemployed, have no opportunity of direct employment by the office of the Supervising Architect, owing to the concentration of its activities in Washington, D. C.

"There is much to be said in regard to the artistic merit of the work of the Treasury office and the possible benefit to the nation in encouraging an expression in design of the problems of Federal and Post-Office buildings in terms reflecting local traditions, materials, and climatic conditions. But we rest our case primarily on facts of business and justice readily understood by all.

"We thank you again, and hope that you will retain your interest in this important problem."

* * *

WE must blame the printer for inserting a cut of the 63 story Bank of Manhattan instead of the Empire State Building on page 39 of the August issue. The picture was used in connection with Mr. Mortimer's article on "Skyscraper Advance Reflects American Progress." The Empire Building which we intended to picture is 102 stories high, the world's largest office building to date.

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